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NEW NAVAL PLANS.

WORK MAPPED OUT OR PROJECTED FOR THE CONSTRUCTION OR TRANSFORMATION OF UNITED STATES WAR VESSELS.

There would appear to be at least a lack of authenticity in the reports freely circulated by the newspapers last week to the effect that a program providing for the construction of fifteen battleships and cruisers has been mapped out by the navy department for presentation at the next session of congress. The true status of the case is that the board of bureau chiefs on July 12, received from Secretary Long a memorandum, asking the members to consider the propriety of making plans for vessels to be recommended to congress for construction. As yet no answer has been made to the secretary's request and indeed Chief Constructor Hichborn, upon whose bureau the work will fall, is opposed to going even thus far until congress indicates how much money it will appropriate and the number and type of ships which it desires. Moreover, the board has not, by any construction which could be placed upon Secretary Long's note, been asked to make any definite recommendation or to decide upon a policy for the department, and as any plan for a definite program would amount to this it may be taken as a pretty sure conclusion that it has not been made. At the same time the board has on frequent occasions discussed informally the subject of types and number of vessels to be constructed, and it was what has seemed the general concensus of opinion of the bureau chiefs that was given out last week as a definite decision. This preliminary project contemplates the construction of three battleships of about 13,500 tons displacement, with armor and armament superior of course to anything either in commission or building for our navy; three powerful armored cruisers, superior in every way to the Brooklyn; a number of protected cruisers similar to the Olympia and several unprotected cruisers. Such a program would on a rough estimate involve an expenditure upward of $50,000,000 and there is a suspicion that the rumor of its adoption circulated was nothing more than a "feeler" to secure an expression of public sentiment, not only on the types of vessels proposed, but upon the wisdom of an expenditure of these proportions at this time.

Meanwhile the navy department has gone forward vigorously in pursuit of its recently avowed policy of putting our present navy in the best possible trim. The war vessels of the Atlantic squadron are to be docked as rapidly as possible and thoroughly overhauled and repaired. Then, too, a great work of transformation is in progress among the older vessels of the new navy. The cruisers Chicago and Atlanta, which are undergoing changes and improvements quite as extensive as those of the Newark, which recently went into commission completely rehabilitated, will be able to enter active service not later than October or November. Following the completion of this work, similar changes will be made in the Baltimore, Charleston, Philadelphia and San Francisco as rapidly as they can be released from duty. The changes to be made are innumerable, including the laying of new decks, improved new ammunition hoists, in some cases new boilers and in the majority a substitution of rapid fire guns for the old slow firing weapons. Great things are expected of the Minneapolis, one of the fastest cruisers in the world, which has been undergoing repairs at Newport News for two months, and on which the alterations include the addition of forward sails. The cruiser Columbia, which went ashore while entering the harbor of Ponce, will have to come home for repairs, and it may be decided to make some changes and improvements while opportunity offers. There is a likelihood that nearly all the vessels which have been in the Cuban blockading squadron will be able to utilize new boilers to advantage. It is stated that the cruiser Detroit, for instance, is in such condition that she is capable of steaming only 5 or 6 knots. Reports from Dewey's squadron also indicate that some of the vessels are not in the best condition. Admiral Dewey has himself complained to the navy department regarding recent performances of the cruiser Raleigh, which, he says, delayed the departure of the squadron from Mirs bay for Manila for three days. It is claimed that there was more danger of injury to the vessel as a result of the derangement of the machinery than from the enemy's shells. Officials claim that the ventilating apparatus is responsible. Similar trouble was experienced with the Cincinnati, a sister ship of the Raleigh. Chief Constructor Hichborn has gotten the Cincinnati's apparatus in pretty fair condition and he will get at the Raleigh as soon as possible. The Dolphin, which at present carries two 4-pounders, will have an increase either in the form of one 4-inch or two 14-pounders. The latter gun is of a new caliber and should it prove an efficient weapon it is expected that the experiment on the Dolphin will be followed by its installation on the new torpedo boat destroyers. The engines and boilers of the Boston are to be overhauled and she will be given an armament of 6-inch rapid-firers. The department has also given orders that the Alert, one of the old-timers among our naval vessels, shall be remodeled and repaired for service with the Pacific squadron. Her sister vessel the Ranger is now undergoing a transformation at the Mare Island navy yard. Both will have new engines and a new armament. The Alert, which will also have her rig lightened and new decks, is expected by the officials to prove thoroughly suitable for duty at Hawaii.

Meanwhile construction work on new vessels at ship yards everywhere is being pushed with all the energy possible. The degree of completion of each vessel under construction is as follows:

Battleships—Kearsarge, 63 per cent.; Kentucky, 62 per cent.; Illinois, 50 per cent.; Alabama, 61 per cent.; Wisconsin, 41 per cent. Torpedo Boats.—Rowan, 99 per cent.; Dahlgren, 85 per cent.; T. A. M. Craven, 70 per cent.; Farragut, 95 per cent.; Davis, 96 per cent.; Fox, 92 per cent.; Mackenzie, 99 per cent.; Stringham, 45 per cent.; Goldsborough, 19 per cent.; Bailey, 20 per cent. Submarine Torpedo Boat—Plunger, 78 per cent. Tugs.—No. 6, 35 per cent. Training vessel.—Chesapeake, 6 per cent.

Bids for Torpedo Boats and Destroyers.

Bids were opened at the navy department at Washington Tuesday for the construction of the twelve torpedo boats and sixteen torpedo boat destroyers provided for by the last naval appropriation bill. The destroyers are to be of about 400 tons and 28 knots, and, according to stipulation, are not to cost over $295,000 each. The torpedo boats are to be of about 150 tons and 26 knots, with the maximum cost allowance placed at $170,000 each. The bids submitted were as follows:

Bath Iron Works, Bath, Me., one torpedo boat, speed 29.5 knots, at $161,000, or four at $160,000 each; one destroyer of 29 knots at $292,000; two at $281,000, or three at $280,000.

J. H. Dialogue & Son, Camden, N. J., one torpedo boat destroyer, 29 knots, at $293,000, or two at $285,000 each.

Columbian Iron Works, Baltimore, one to four torpedo boats, 26 knots, at $160,000 each; also under different plans one torpedo boat, $168,000; two at $165,000, three at $163,000, or four at $161,000 each; also one destroyer, 28 knots, $293,000, two at $291,000, three or four or five $289,000 each; also destroyers under different plans, one or two at $282,500; three, four or five at $282,000 each.

Neafie & Levy Co., Philadelphia, destroyers, 29 knots, two, $284,000; three, $283,000 each.

William R. Twigg, Richmond, Va., torpedo boats, 26 knots, one at $160,000, two at $150,000 each, three at $129,750, four at $114,759 each; also destroyers, one at $275,000, two at $260,000, three at $250,000, four at $240,000, five at $233,000 each.

Union Iron Works, San Francisco, destroyers, 29 knots, one at $294,000, two or three at $285,000 each; also destroyers under second-class, one at $294,000, two at $282,000, three at $281,000 each.

Maryland Steel Co., Sparrows Point, Md., destroyers, two of 30 knots, at $294,000, three at $286,000, three (different bid) at $283,000, four at $282,000 each.

George Lawley, South Boston, torpedo boats, one 26 knots, at $162,000, two at $159,400; also, different plans, one at $152,900, two at $149,000 each; also, different plans, one at $157,400, two at $153,900 each.

Lewis Nixon, Elizabethport, N. J., torpedo boats, 26 knots, one at $168,000, two at $165,000 each.

Harlan & Hollingsworth Co., Wilmington, Del., destroyers, 29 knots, one at $294,000, two at $291,000 each.

Fall River Engine Co., Weymouth, Mass., one destroyer, 30 knots, at $286,000; one torpedo boat at $164,000; also, different plans, one destroyer at $281,000, three at $280,000; also destroyers, different plans, one 30 knots and one 28 knots, at $282,000 and $372,000 respectively; also torpedo boats, one at $160,000, three at $159,000 each.

Gas Engine & Power Co., Morris Heights, N. Y., destroyers, one at $285,000; also one destroyer and one torpedo boat at $428,000 for both; or two destroyers and one torpedo boat $780,000; or two destroyers and two torpedo boats $849,000; or two destroyers and three torpedo boats $987,000.

Richard E. Peyton, Williamsport, Pa., destroyer, 40 knots, one at $295,000, four at $295,000; also one to four, 30 knots, $230,000; also one to four, 35 knots, $276,000; the foregoing bid at 40 knots caused some comment.

Wolff & Zwicker, Portland, Ore., one torpedo boat at $170,000, two at $165,000, three at $163,000, four at $162,500; also destroyers, 29¼ knots, one at $289,000, two at $285,000, three at $282,000; also destroyers, one at $295,000, two at $291,000, three at $289,000.

Neither Wm. Cramp & Sons nor the Newport News Ship Building & Dry Dock Co. submitted bids. No contract awards have as yet been made.

Lake Freight Matters.

If Cleveland brokers could bring together a fleet of eight or ten boats to be offered for ore from the head of Lake Superior, they would have no difficulty at this writing in advancing the rate to 50 cents. Ore freight rates will certainly be advanced within the next few days, but shippers are not disposed to pay higher figures unless there is some inducement in the number of ships offered. The outlook for a heavy fall grain movement from the northwest is still the main cause of the stronger freight market, but improvement in all branches of the iron industry is also a factor in the situation, as ore producers are prompted to hurry their shipments in advance of a possible boom in fall rates. Coal shipments are so well up to requirements on both Lake Michigan and Lake Superior, that little is expected from this source, but the outlook in ore and grain grows more favorable each day from the vessel owner's standpoint.

It is now quite generally understood in iron and steel circles that another large consolidation—Minnesota Iron and Illinois Steel—which has been referred to several times of late in these columns, is now practically assured. The Lorain Steel Co. is also understood to be included in the consolidation. Stock in all three of these companies has shown marked advances of late, and, although nothing official has been given out regarding the consolidation, it is expected that full details will be announced shortly.

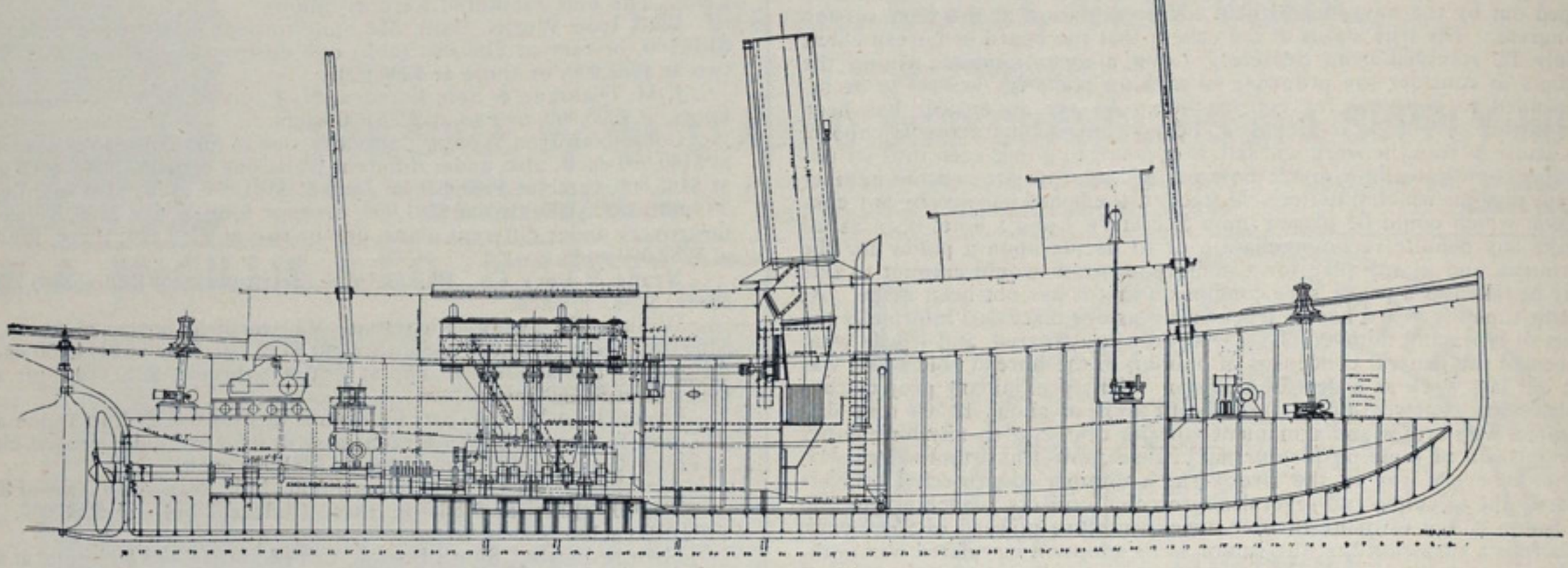
The shipping interests of the country are unanimous in commendation of the stand taken by the Secretary of the Treasury in his order to collectors of customs and others that none but American vessels should be cleared for the ports of Porto Rico. The decision though, should go a step farther and permit no exports from Porto Rico for the United States to enter in vessels under foreign flags. The value to American shipping of the exclusion of foreign shipping from the trade with our new island possessions, including Cuba and the Phillipines, would be simply incalculable, and it is to be hoped that congress will, early in its coming session take a definite stand in the matter.

SEA-GOING TUG WILMOT.

.FUL TOWING STEAMER UNDER CONSTRUCTION IN CLEVELAND—HER OWN-ERS AND BUILDERS CLAIM SHE WILL BE THE FINEST CRAFT OF HER CLASS IN AMERICA.

:ertain inevitable limitations have prevented the development of sea-g tug construction in America from being characterized by the radical ·ations that have been introduced by American builders in some types of vessels, but there is nevertheless much of interest to marine :cts and engineers in the evolution of a type that has reached a rela- high degree of perfection.

is as an exemplification of this development that considerable inter- ›uld attach to the steel sea-going tug Robert W. Wilmot, building Globe Iron Works Co. of Cleveland for W. G. Wilmot & Co.,

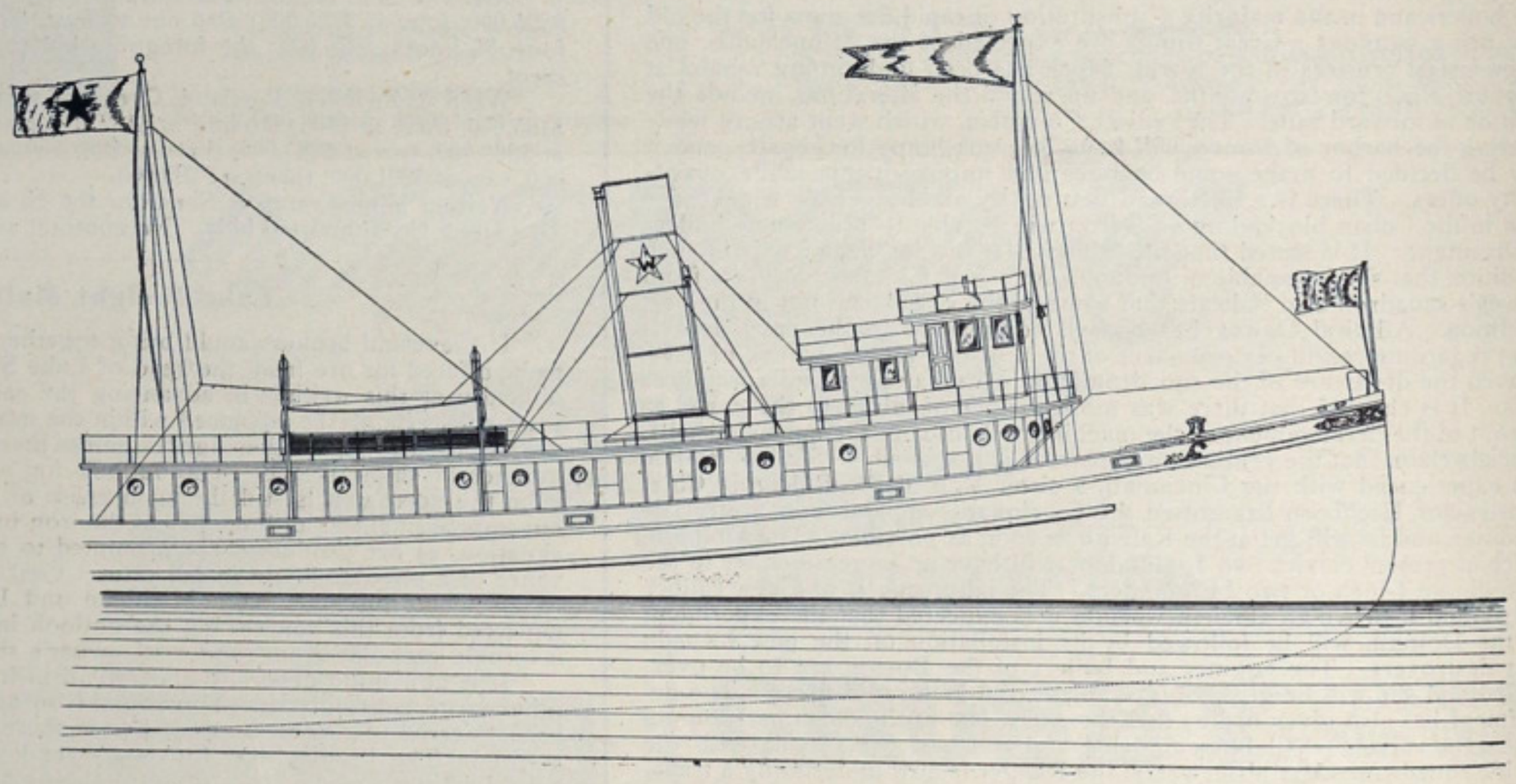


INBOARD PLAN OF THE SEA-GOING TUG ROBERT W. WILMOT, BUILDING BY THE GLOBE IRON WORKS CO.

owing contractors of New Orleans, La. The nature of the on by this firm, including, as it does, heavy wrecking work Mexico and the rendering of assistance to steamers stranded passages of the delta of the Mississippi, makes the exactions employed very severe, and it is to meet the heaviest of these the firm is having constructed the Robert W. Wilmot, which, ıer builders and owners, will constitute the most powerful in America. Indeed they assert that so far as they have certain she has no peer in the matter of power in European e are tugs of equal size but none more powerful. w on the stocks is designed to replace the tug Rob- completed for Wilmot & Co. last year by Wheeler & Co.

or 2,200 collective horse power, including pump engines, and must, according to the contract, develop a speed of 20 knots. A feature of the tug will be the elaborateness of the interior furnishing, a provision made in view of the fact that the Wilmot will frequently be required to carry underwriter representatives to and from wrecks, and it may be necessary at times for them to live aboard for several days. The interior of the pilot house, owner's room, engine room, dining room and officers' rooms will be neatly paneled with mahogany, and all the ceilings will be paneled with white pine, the moldings being gilded.

In the hull construction there have been used plates of open hearth mild steel of a tenile strength of 55,000 pounds per square inch. The deck plating will be of a 12½-pound quality, except under the windlass and capstan, where 15-pound plating will be used. There will be five watertight bulkheads. The deck house will be constructed entirely of steel. Aft of the store room will be a room for three firemen and a lamp room with suitable shelves and fittings. The engine room will be neatly paneled in black walnut and will have a grating for cross passage through the deck house. The owner's room will be located in the after end of the deck house on the starboard side. It will also be finished in black walnut and will have a double berth, lounge, office desk, water closet and other necessary outfit. The deck house will have a continuous inside pasage. Forward will be the mess room, ceiled with white pine, and abaft of the mess room will be the galley. Following in order will be a bath room, store room and two water closets. The steel pilot house will be located on top of the main deck house. The tug will have considerable shear, and, as may be seen from the accompanying illustrations, will present a very graceful appearance. The vessel will have two steel masts. A fresh water tank of



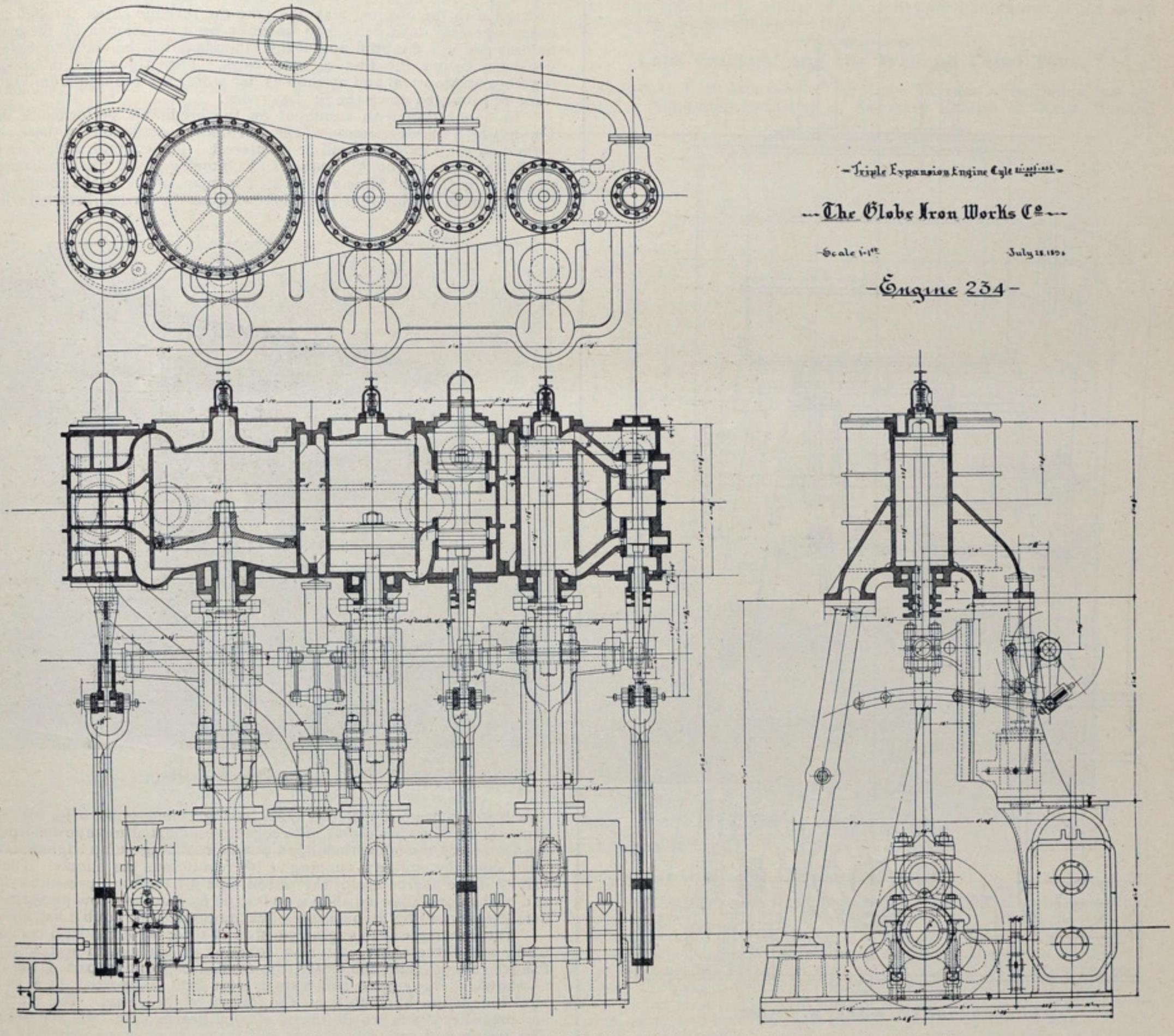
·RD PLAN OF THE TUG ROBERT W. WILMOT, BUILDING FOR W. G. WILMOT & CO., OF NEW ORLEANS.

› the United States government at the the auxiliary fleet under the name of onsiderable attention, by reason of her r will be superior in every respect, hav- :rease in beam, and 1 foot greater depth, :r fully 600 in excess of her predecessor. will be of the following dimensions: 156 inches between perpendiculars; 30 feet :pth, molded; spring of beam, amidships, ·n loaded for sea will be 14 feet. The tug ns; 2,100 indicated horse power of engine

1,000 gallons capacity will be located forward in the lower hold. A refrigerator will also be provided and a steam heating plant will embrace every room in the vessel. Forward of the coal bunker, below deck, space will be provided for a crew of twenty men.

The power for the propulsion of the vessel will be provided by one of the Globe company's triple expansion engines of the direct-acting vertical type, as shown in the illustrations herewith presented. The cylinders, arranged fore and aft, will be 21, 33½ and 55½ inches in diameter by 42 inches stroke. The main valves will be of the piston type for high pressure, intermediate pressure and low pressure cylinders. All valves will be worked by the Stephenson link motion, having adjustable cut-off. There

will be two boilers of the return tubular type, 12 feet 6 inches in diameter by 12 feet long, with three Adamson furnaces, 40 inches in diameter. A steamer pressure of 185 pounds per square inch will be allowed. The boilers will be equipped with the Ellis & Eaves' induced draft. The tug will be equipped with an independent duplex air pump of the admiralty pattern, a circulating pump, boiler, feed, cooler and deck or fire pumps. The wrecking pump will have a capacity of 60,000 gallons per hour. The vessel will also have a double-barrel capstan with quick gear engines, manufactured by the American Ship Windlass Co. of Providence, R. I., and a Shaw & Springle towing machine, supplied by the same firm. A Williamson worm geared steam steerer will be provided. The electric light plant, which will be installed by the General Electric Co., will consist of 250 incandescent lamps, a 20-inch search-light and six portable cargo lamps for use in wrecking operations. The construction of the Wilmot has been superintended by Mr. T. R. Richardson, the consulting engineer of the firm of Wilmot & Co. The vessel when completed in



TRIPLE EXPANSION ENGINES OF THE TUG ROBERT W. WILMOT, BUILDING FOR W. G. WILMOT & CO.

November of this year will represent an outlay of considerably more than $100,000. She will be taken to New Orleans via the St. Lawrence and the Atlantic, touching at Norfolk and Key West, making the total voyage 4,418 miles. The business of Wilmot & Co. is very largely with European firms, and the new tug is expected to create no little interest abroad. The launch of this vessel will take place at the Globe yard on Saturday, the 27th inst.

How Fire Proof Wood is Made.

Recent comments regarding the necessity for the use of non-flammable wood in the construction of naval vessels, as exemplified by the destruction of Cervera's fleet, has aroused general interest in the method of treatment to which wood is subjected to secure these properties—a process regarding which very little has been printed. The method of procedure in the plan which has, according to the experiments thus far made, proven most effective, is to first place the wood to be treated in cylinders, where, after its volatile and fermentable constituents have been driven off, the fireproofing solution is applied under a pressure of fully 200 pounds to the square inch. About twenty-four hours is consumed in this operation, and the wood is then placed in a drying room heated with hot air, where it remains for two or three weeks. It is then ready for the market. In most of the manufactories using this process the cylinders are of uniform diameter of 7 feet, but vary in length from 30 to 110 feet. The timber to be treated is stacked on steel trucks, which are run into the cylinders by means of a narrow-gauge road. Between the cylinders and the drying room is a transfer table, so that a truck from any cylinder may be run onto this table and transferred to the drying room. There are several manufactories of this wood in this country and one has just been established in England.

A Future for Grand Marais.

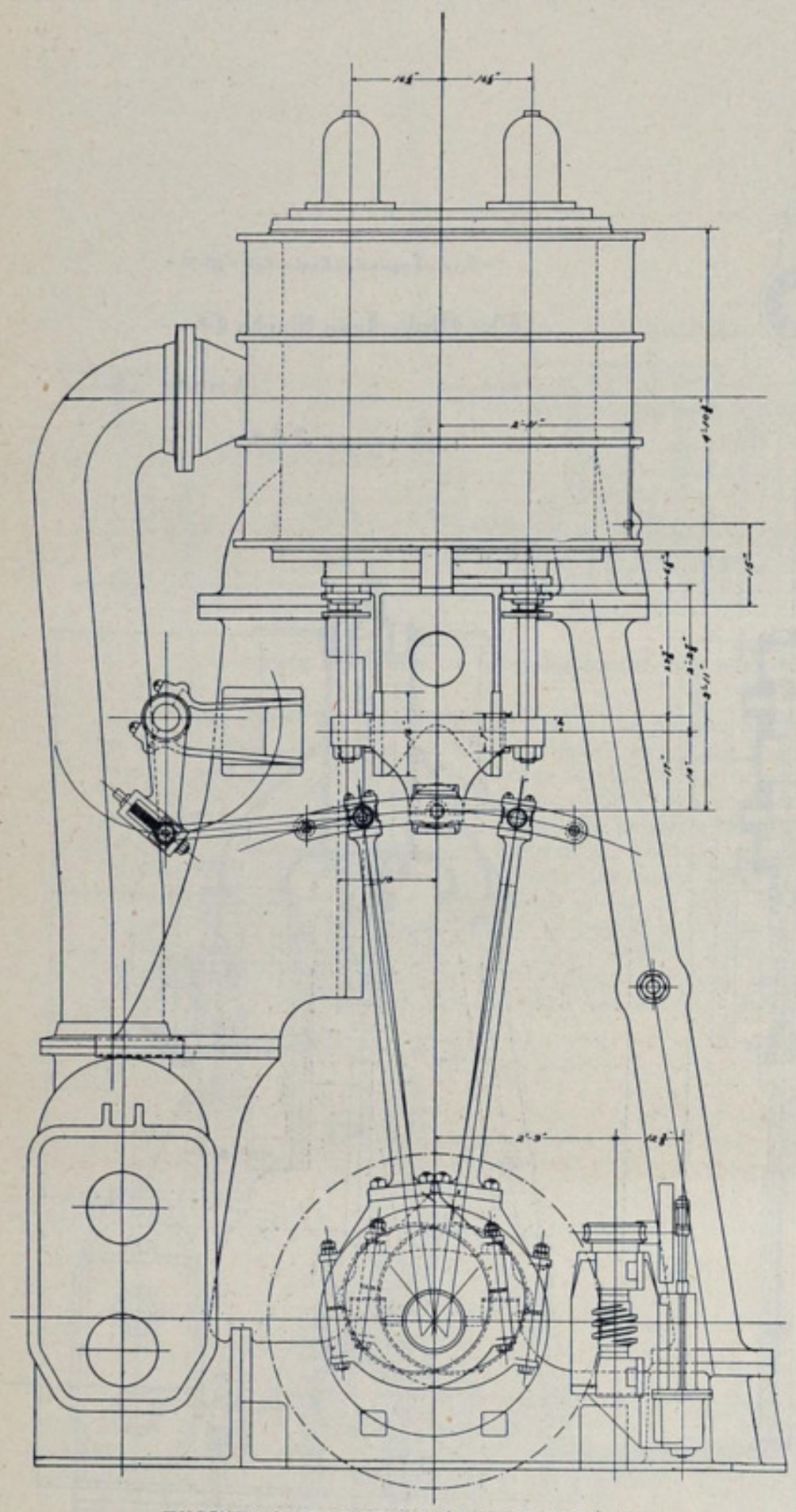
A vessel owner who has been spending a portion of the summer in the vicinity of Grand Marais, Minn., has developed a considerable confidence in the future of that port. In writing of the harbor he says: "On the outer side is a ledge of rock half a mile long affording natural protection, and this is enhanced by the government breakwater, giving a safe anchorage fully forty acres in extent. Yet vesselmen seem to very rarely avail themselves of this harbor of refuge, probably because the Duluth and Sault Ste. Marie sailing course is so far over toward the south shore of the lake."

The belief in the coming importance of Grand Marias seems to be based upon a confidence in its preeminence as a natural outlet and shipping point for the iron ore from the mines of eastern Minnesota. The claim is made that if the Mesabi and Vermillion ranges, the most productive of all, extend, as has been claimed, well to the eastward, their full development can be but a matter of time, and that when it comes the ore product will seek the nearest available harbor on Lake Superior, there being, of course, only one. The projected railroad to traverse the north shore between Two Harbors and Grand Marais is also expected to play a part in the hoped-for development. The vessel man above quoted is also optimistic regarding the inauguration of lumbering operations on a large scale. That there is some foundation for the statement regarding the general trend of the industry is shown by the fact that the Michigan Lumber Co., Gen. Alger's organization, has arranged to transfer its plant and field of labor from French river, Georgian Bay, to Pigeon river, Minnesota.

ONONDAGA'S TRIAL TRIP.

SHE MAKES AN EVEN MORE FAVORABLE SHOWING THAN THE TWO OTHER LAKE-BUILT REVENUE CUTTERS OF SIMILAR DESIGN.—HER SPEED.

No revenue cutter in the service ever made a more universally favorable showing than did the Onondaga, built by the Globe Iron Works Co., of Cleveland, on her recent governmental trial from Cleveland to Ogdensburg, N. Y. The Onondaga developed, under forced draft, a speed of 18.27 knots per hour, whereas the Algonquin, her sister ship, developed only 18 knots, and the Gresham, which was built by the Globe company several years ago, attained a maximum speed of 18.25 knots on her trial trip. The working of the machinery was also quite as perfect as in the case of either of those other two cutters. The Onondaga steamed the entire distance across Lake Ontario, under natural draft, at an average speed of 16½



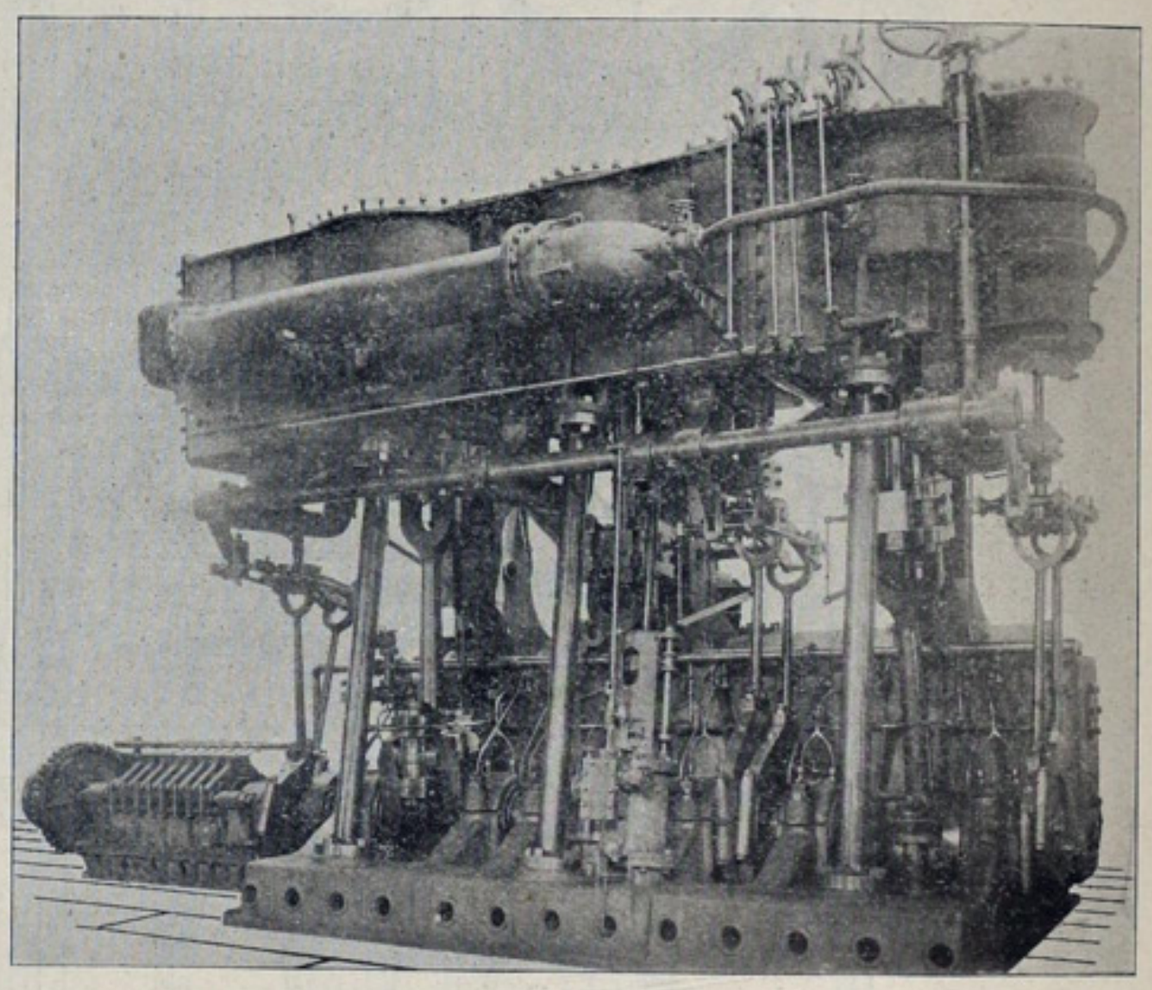
ENGINES OF THE TUG ROBERT W. WILMOT.

knots per hour, and on the final hour's run before reaching Ogdensburg the fire room was closed and the blowers put on, whereat the speed of 18.27 given above was attained. The air pressure during this run was only ¾ inches of water. The running of the engine was thoroughly satisfactory to all the officials aboard. The engine revolutions ranged from 160 to 173, which is somewhat better than the record of the other cutters, and no water was used on the journals during the entire trip. There was no difficulty in taking care of all the steam generated, and the steam pressure at no time exceeded 160 pounds, whereas the maximum is 165 pounds. The coal consumption was, as in the case of the Algonquin, very moderate. The Algonquin left Cleveland with 80 tons of coal aboard and arrived at Ogdensburg with 35 tons in her bunkers, while the Onondaga had 60 tons aboard when she started, of which 15 tons remained when she steamed into Ogdensburg. The builders claim that the trial would have resulted in an even better showing of speed had the vessel's bottom been clean. As it was the discovery was made when she was hauled out on the marine railway at Ogdensburg, that her bottom was covered with grass several inches in length.

It has finally been decided that the example furnished by the other two revenue cutters shall be followed and the Onondaga taken to the coast, but this decision, which was only reached after some little delay, developed some peculiar circumstances. It seems that the cost of transporting each revenue cutter through the canals, taken in conjunction with the expense of cutting it in two and reconstructing the cutter at Montreal amounts to about $20,000, and the navy department, which still has under its jurisdiction the revenue cutters on the Atlantic coast, was desirous of saving the expenditure in the case of the Onondaga and the work of cutting the vessel in two was therefore ordered stopped. Then the officials of the revenue cutter service, who have all along made no secret of the fact that they desired these lake cutters for coast service because of their size and strength, took up the matter with the navy department and urged that the original plan be carried out, arguing that it would cost nearly as much to cancel the contract as to bring the Onondaga through the canals. Accordingly a telegram was sent asking the Globe officials what outlay would be necessary to cancel. The Globe company, after consulting with the various firms to whom they had let contracts for the various operations involved, informed the navy department that it could not be done for less than $13,000, for the reason that some of the subcontractors seeing that they had the advantage refused to cancel their contracts except for sums equal to, and in one case even greater, than the price agreed upon for their portions of the work. The department upon receipt of this statement wired back to proceed with the original plan and take the revenue cutter through to the coast. Several days delay had however been occasioned by these negotiations and it is doubtful now if the Onondaga will be ready to leave Ogdensburg before the first of next week. The Algonquin is being put together at Montreal and as soon as her stores are brought from Ogdensburg will proceed down the St. Lawrence.

In connection with comment on the creditable performance of the Onondaga, a full description of the machinery installations of these vessels —the first yet published—will be of interest. The engines, which are practically the same in the Algonquin and Onondaga as in the Gresham, were designed by General Manager, R. L. Newman, of the Globe company.

The main engine illustrated herewith is of the vertical, inverted cylinder,



ENGINES OF THE REVENUE CUTTER ONONDAGA.

direct-acting, triple expansion type, having cylinders 25, 37½, 56¼ inches diameter by 30 inches stroke. The collective indicated horse power of propelling machinery, including the air pump and circulating pump engines, is about 2400, when the engine is running at 160 revolutions per minute. The main valves of the engine are of the piston type for the high pressure cylinder, and of the double ported slide type for the medium and low pressure cylinders, all worked by Stephenson's link motions, with double bar links.

The framing of the engine consists of three wrought steel columns in front, and three short cast iron columns at back, with feet resting on flanges cast on main condenser, the condenser forming part of the frame, as shown. The engine bed-plate is cast iron, supported on a wrought steel foundation built up from the frames of the vessel. The crank, line and propeller shafts are all forged of open hearth mild steel and are solid. The piston and connecting rods and the working parts generally are all forged high tensile open hearth steel. The main condenser has a cooling surface of about 2870 square feet measured on the outside of the tubes. There is one independent, vertical, single-acting twin air pump, worked by two steam cylinders, also one main circulating pump, independent centrifugal type. The boat is propelled by one true screw of cast steel.

The engine is supplied with steam by four single ended steel boilers of the horizontal-return fire-tube or Scotch type, all constructed for a working pressure of 160 pounds. The boilers are placed in a separate water tight compartment, with one common fire room. Each boiler contains two corrugated furnaces, each 3 feet 6 inches in diameter. The total heating surface is about 5250 square feet and the total grate surface about 168. The boilers are 11 feet 8 inches outside diameter and 10 feet long over all. There is one main boiler feed pump of the vertical duplex type located in the fire room, also auxiliary bilge, fire and other pumps. Forced draft arrangements are fitted complete in the fire room, consisting of two blowers and direct connected engines. The steam and water piping throughout the vessel is entirely of brass and copper, and in every respect the vessel is designed for salt water service.

NEW ATLANTIC COAST STEAMERS.

THE MAGNIFICENT VESSELS UNDER CONSTRUCTION FOR THE MERCHANTS' AND MINERS' TRANSPORTATION CO. BY THE HARLAN & HOLLINGSWORTH CO.

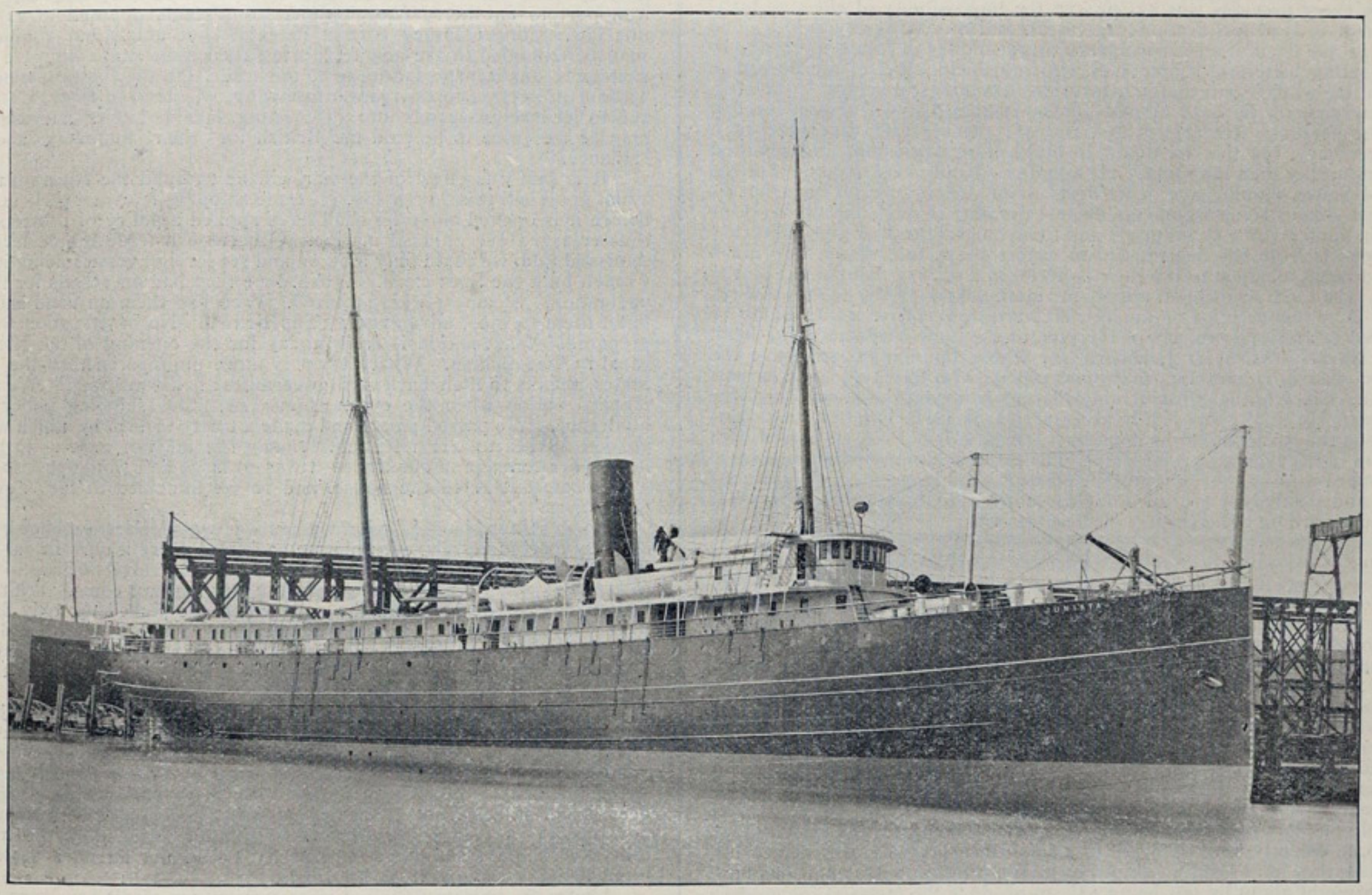
Among the finest passenger steamers now under construction in this country are the two vessels building at the yard of the Harlan & Hollingsworth Co., at Wilmington, Del., for the Merchants' and Miners Transportation Co., of Baltimore, operating a regular passenger line between Boston, Providence, Baltimore, Norfolk, Savannah and Newport News. The new vessels will be exact duplicates of the Juniata, at present the finest steamer on the line and a picture of which is herewith presented.

The vessels now building will have a length on a 16-foot water line from inside of stem to inside of main post of 274 feet; beam molded, 42 feet; depth of hold from base line to third deck beams at dead flat, 26 feet; to fourth deck, 34 feet; spring of beam amidship, 10 inches on third and fourth decks and 9 inches on first and second decks. All four decks are to have steel beams. On the third deck aft there will be a passenger saloon with 20 staterooms, pantry and toilets. The saloon, which is to be fitted with a large double stairway, will be 72 feet long and as wide as the vessel will admit. On the third deck, amidship, will be a house 16 feet wide by 77 feet in length enclosing machinery, smoke-stack, kitchen and second-class rooms, cooks' and wash rooms, etc. On the same deck there will be a forecastle about 50 feet long, divided for the crew, water closets, mate's and cooks' stores, ice houses, oil and lamp rooms, etc. The fourth deck will be covered with canvas as far forward and aft to join the caulked deck. Aft of the smoke stack there will be a house 24 feet in width by 105 feet in length, containing engine room opening, engineers' rooms, social hall, toilet room for ladies and passenger staterooms with skylights. On this deck surrounding the smoke-stack there will be a house about 40½ feet long by 27½ feet wide containing smoking room, gents' toilet, passenger staterooms, officers' mess room and pantry. Forward of the smoke-stack there will be located a house 18 x 37 feet in the clear, with elliptical front to contain 10 staterooms for passengers and stairs to the captain's room. On top of this house will be located a pilot house, captain's room, toilet, one stateroom and two officers' rooms. The new vessels are to be schooner rigged with two pole masts and wire standing rigging. In the second between decks there will be two cargo ports on each side; also two coaling ports. In the third between decks there will be three cargo ports on each side and also one air port on each side, abreast of galley. There will be three freight hatches in first, second and third decks, and two in the fourth deck; the one aft in the first deck will be double.

Power for the propulsion of each vessel will be furnished by direct, tri-compound engines with inverted cylinders 28, 45, and 72 inches in diameter by 54-inch stroke. The crank shafts will be of scrap iron in two or three pieces, of the built-up form. The condensers will have about 5,650 feet of cooling surface and there will be equipments of air, feed and bilge pumps of the Blake pattern. The boilers, four in number, will be of the cylindrical and return turbular type with 14½ feet diameter of shell and a length of twelve feet inside; three furnaces will be provided, each leading into separate combustion chambers. The diameter of the furnace will be about fifty feet inside and the fire bars are not to exceed 6 feet, 9 inches in two lengths. The grate surface will aggregate 320 square feet and a working pressure of 170 pounds per square inch will be developed. A Buffalo blower direct driven with independent engines and of 8,000 to 10,000 cubic feet capacity will be located forward of the smoke-stack at a height of the main deck and arranged to draw air from the hold and also from the ventilator, and discharge overhead into the fire room; the blower will be arranged and piped complete for both steam and exhaust. The donkey boiler is to be of the Scotch type, 6 feet 10 inches in diameter by 9 feet 2 inches long and constructed for a working pressure of 170 pounds. The vessels will be equipped with Hyde steam capstan windlasses and each will have four Williamson steam hoisting engines, cylinders 8 by 8 inches. The electric lighting plants will be similar to that installed in the Juniata, and every room in the vessels will be heated by steam.

The interior furnishing will be quite as elaborate as in the case of the Juniata. The captain's room will be paneled in light hard wood; the smoking and mess rooms will be similarly paneled and will have floors of cherry and maple, while all staterooms will have hard wood berths.

The contract for the first of these new vessels was let on May 2, 1898, and calls for her completion not later than April 1, 1899. It is stipulated too that on a trial trip of 12 hours duration the new vessels shall develop an average speed of 16 knots, which is one knot in excess of the speed developed by the Juniata on her trial.



THE JUNIATA, DUPLICATE OF THE TWO STEAMERS NOW BUILDING BY THE HARLAN & HOLLINGSWORTH CO.

Lake Carriers' and the Welland Canal Tolls.

President J. S. Dunham of the Lake Carriers' Association has appointed a committee consisting of Secretary Charles H. Keep, Counsel Harvey D. Goulder and J. H. Westbrook, manager of the Ogdensburg Transportation Co., to bring to the attention of the Anglo-American commission, now in session at Quebec, the generally expressed desire on the part of a great portion of the members of the association for an abolition of the Welland canal tolls. It may be that Buffalo members of the association will object to this action on the part of President Dunham, on the claim that the joint commission will not reach matters of this kind for some time to come, and that there was therefore plenty of time in which to submit the subject to the executive body. Of course, any gain in business through Canadian canals, due to abolition of tolls, would result in loss to American routes, especially to Buffalo and the Erie canal. But the president of the Lake Carriers' Association seems, in the appointment of this committee, to be proceeding on the understanding that the interests favorable to the abolition of these canal tolls are much larger than any opposition that might possibly be developed in Buffalo or other parts of New York state. The work of the committee appointed by Capt. Dunham will in all probability take the form of an address urging the removal from all classes of American vessels of the tolls not only upon the Welland but upon the new St. Lawrence canals as well. A committee of the Chicago board of trade has been asked to take action in the matter, and it is expected that a similar appeal will be made to other commercial organizations in the lake cities. One of the claims which will be made by the Lake Carriers' committee when it appears before the commission will be that the granting of the concession asked would be the salvation of many of the smaller vessels on the lakes whose profits have been materially reduced by the large carriers. Another matter likely to receive attention at the hands of the Quebec commissioners is that part of the Rush-Bagot treaty with Great Britain relative to the maintenance of war vessels on the great lakes, and which by recent constructions has debarred lake ship builders from bidding on government work. These ship builders do not desire the abrogation of the treaty but simply desire a mutual understanding between the two countries on this one point.

MARINE REVIEW

Devoted to the Merchant Marine, the Navy, Ship Building, and Kindred Interests.

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If there be any one type of war vessels which would seem to have fallen into disfavor as a result of the happenings of the Spanish-American conflict it would appear to be the monitors. Both torpedo boats and destroyers, to say nothing of the ram Katahdin, have it is true, proven a disappointment, but it was more by reason of a lack of opportunity for the demonstration of their powers rather than any evidence of inefficiency. The monitors have in short evidenced their limitation to harbor defense work. Here they amount to little more than floating batteries. This as well as every previous war has proven the impossibility of effective bombardment of land fortifications by vessels and this being the case a good many people deem it an extravagance to put money in lumps of $2,000,000 into floating batteries. Capt. A. S. Crowninshield, chief of the bureau of navigation, would seem, judging from his statements in a New York Herald Interview, to have an opinion on the matter that will appeal forcibly to most persons. He argues that the war demonstrates our need of a stronger navy, but that we ought to build more battleships and armored cruisers, rather than monitors. He admits,as do all naval experts, that the United States should have in its fleets some vessels of each type, but he presents some strong arguments against the idea of more monitors. One is their limited circle of influence and their unsteadiness as gun platforms. The reports from the fleet in Cuban waters show, too, that it was much more difficult for them to use their batteries in a seaway than for the battleships. Capt. Crowninshield argues for more vessels of the Olympia kind, which in common with Commodore McNair, he seems to think should be prefered to armored cruisers of the type of the New York and Brooklyn. Chief Naval Constructor Hichborn, for whose opinion experts have the highest regard, is another department official who has long been earnest in his advocacy of the construction of larger battleships and swift armored cruisers. He thinks that if it is necessary for fleets to bombard land fortifications the work should be done by a special class of vessels armed with mortars rather than with battleships. The general impression among naval men appears to be that our present plans for the construction of torpedo boats and destroyers are all sufficient until something more definite is learned regarding the efficiency of these vessels.

One of the officers of the Lake Carriers' Association, who, unlike most of his associates in that organization, is not a believer in subsidies for ships, adds to a business letter just received by the Review a paragraph relative to the effect of the war on American shipping. "It looks now," he says, "as though the war was a blessing in disguise, and good results will follow that had not been anticipated, for it has not only demonstrated the efficiency of our little navy, but has proved in a startling manner the importance of this country having a navy and the importance also of having a navy second to none in the world. This fact being recognized, our government will no doubt build up without loss of time such a navy as our importance and our position now as a nation demands. Our merchants and manufacturers, too, have had their attention called, not only to the existence of foreign markets, but their value. For twenty years or more our ship builders have been asking for special favors from the government, and quite recently have obtained in a small measure what they asked for, but while they have been wasting time at Washington new conditions have been brought about by our being able to produce the material for modern ships cheaper than it can be done elsewhere. At the same time the higher wages for labor in this country have made necessary the invention of labor-saving tools, and now it is quite probable that we can build ships cheaper than they can be built elsewhere in the world. With capital so abundant that 3 per cent. government bonds are at a big premium, it is to be expected that there will be a boom in ship building on the Atlantic coast. In a very few years we will hold the position we held before the civil war as second only to England in merchant marine, and in due time we may expect even to take the foremost place."

That the people of the country are fast coming to a true appreciation of the value and importance of the iron and shipbuilding interests of the great lakes region is being daily demonstrated in many ways. In discussing the subject the New York Commercial recently said editorially: "If the few people who practically control the iron ore, the steel-making, the lake steamship and the oil-producing and distributing business of this country would acquire interests in American ship yards and steamship lines, as well as in the construction and use of tramp steamships, what a potential combination for the development of American industries it would be! The foreign markets would be the magnet to attract the steel products that could be carried in American built and owned steel steamships, each separate department affording employment for the products of the other, from the material in the bowels of the earth, to the doors of the foreign consumers. With such vast interests thus combined, the cost of exploiting and maintaining new markets could be profitably undertaken, and their rapid expansion assured."

Days are numbered for the old wooden ships of the British navy. Orders were given a few days ago for the sale of the Nelson, which has been for many years past in the harbor at Melbourne, Australia. She was launched in 1814, and was then one of the largest of the English ships of the line. Her figurehead is a bust of Nelson with a scroll inscribed "England expects that every man will do his duty."

GOVERNMENTAL POLICY.

WILLIAM W. BATES, EX COMMISSIONER OF NAVIGATION, GIVES HIS IDEAS OF WHAT IT SHOULD BE WITH REFERENCE TO OUR MARITIME INTERESTS.

Mr. William W. Bates, who during his occupancy of the position of United States commissioner of navigation was known as a man free in the expression of his convictions, has favored the Review with his views upon the effect of the war on our merchant marine and export trade and relative to the most advantageous naval policy to be adopted. His communication follows:—

Editor Marine Review:—The present war with Spain will introduce some new conditions of maritime growth. The salient point is, will they be better than the old? In forecasting the results on our merchant marine and export trade, and in reaching a conclusion as to the most advantageous naval policy to be adopted, we should consider, chiefly, two facts full of consequence. These are, the ruined state of our shipping interest, and the disinclination of congress to do anything for its upbuilding and success. What is wanting is a preferance for the employment of American vessels. How shall this be made? Our fathers provided wise regulations of trade. We shall gain considerable in territory, population and ports, and somewhat in commerce, but there will not be more employment for American vessels, if the shipping of all nations shall be admitted to the carrying between the new and the present ports. The present law gives cargoes to American vessels, and excludes foreign carrying from one American port to another. The administration seems opposed to extending this law. Congress may correct its fault; but unless our coasting law shall be extended to the new territories, their annexation will give no advantage to our transportation, or to our trade. On the contrary annexation without protection to navigation following, will tend to repeal of the law, and to let foreign vessels into all coasting, lake and river carrying. This may be the price to be paid the British for their flummery about an "alliance."

It is said one effect of the war will be to build the Nicaragua canal. What good will this do our foreign-trade shipping? Not a particle, unless before it is opened congress shall have applied a policy of protection and thus enlarged our reduced marine. Otherwise if trade should increase a thousand fold, we could only look on and see foreign vessels doing it. The French built the Suez canal. When done they had no vessels for the new navigation. Steamers were required. Who had them on hand and could build them to most advantage? The British. No other nation was well prepared. What nation is ready today for the opening of the Nicaragua canal? The British. What nation is more unprepared than the United States, thanks to their backward government? Switzerland! We are the laggard nation when the ocean is in view. Our shipping policy is the hindrance. We passed an act and made a treaty in 1815 by which we have yielded the sea to Great Britain. Lately she did not want us to lay war tax on her tonnage in our trade—it was so large and would cost so much! The senate overruled the house, and so we knuckled to the "Sovereign of the Seas."

Look at our shameful plight when war was declared—obliged to hire and buy foreign vessels, even private yachts, to carry it on. In our logical fear of worn-out Spain, we ransacked Europe for vessels of war to buy or to borrow! With an adequate navy, the war had not come. Without the little navy that we had, and the marine that we picked up, only disgrace would have followed. The people have had a lesson in maritime defense; but the question remains, will our statesman study it? Will congress reform our shipping policy? All the good to be expected from the war and the new conditions depends on that.

Think of the disadvantage involved in carrying on a commerce half the the extent of the British, with ninety countries and communities having of our own only one potential ton of shipping to Britain's seventeen, and only enough vessels to carry one-twelfth the trade! Of our exports last year, we carried but 5½ per cent of values. Our large export trade would have been larger still, had merchants of our own conducted it with shipping of our own. There is no instance of a nation commanding the trade of others with hired shipping. Prosperity would not attend a dealer who hired delivery wagons from his rivals.

Under the present policy of unprotection, our rivals have been able to drive our ships from the sea. We have now twelve times the foreign trade that we can get employment in for shipping. Shall we gain employment by enlarging our trade? That is not our past experience. Under our early protective policy we could do so, and could recover our carrying after a war.

As for exports, they must necessarily bear a proportion to shipping. Ship owners always strive to find markets. American ship owning would increase American exports vastly. We had this experience in our early history. It is strange this seems to be forgotten.

In my view, we should hold every foot of territory that our flag now waves over. Our law for domestic navigation should be immediately extended to the voyages of American vessels from and to every port under the flag. Our law for foreign navigation should be reformed on protective lines, on the principle of preferance for the employment of American ships. The Nicaragua canal should be built and owned by our national government. Our naval strength should be increased to comport with the amplitude of our interest in commerce and navigation; our national rights and duties; and our rank among the maritime nations—practically second to Great Britain alone.

WILLIAM W. BATES.

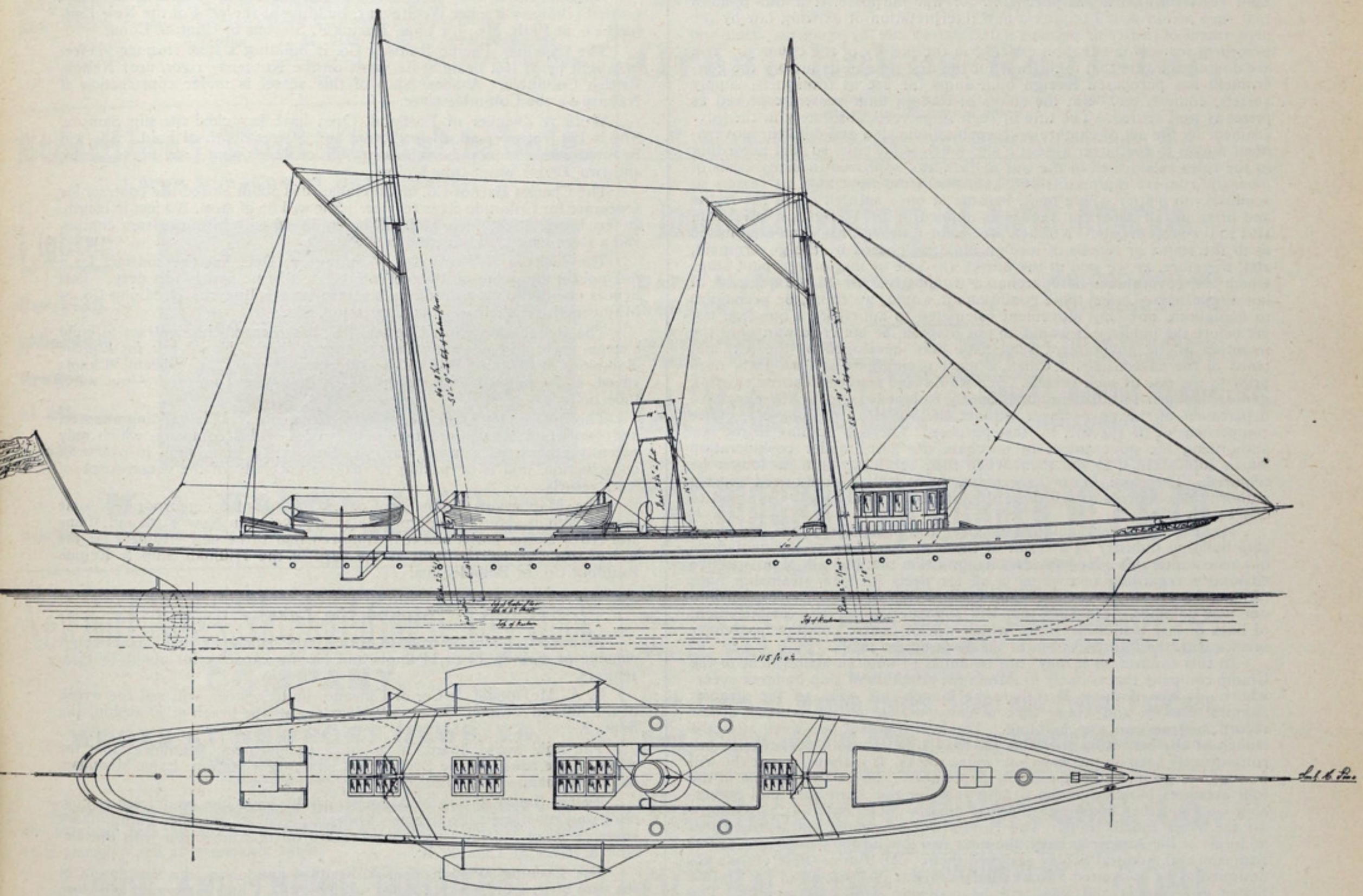
Denver, Col., August, 1898.

U. S. Naval Exhibit at the Paris Expo.

The bureau of naval intelligence of the navy department informs the Review that despite the reports to the contrary printed in numerous papers no definite steps have yet been taken by the navy department with reference to its exhibit at the Paris Exposition. The act of congress providing for the United States governmental exhibit at Paris, makes an aggregate appropriation of $650,000, of which $75,000 is set aside in the act itself for the exhibit of the department of agriculture. The remainder of the appropriation has not as yet been allotted to the different departments. Lieutenant Asher C. Baker, U. S. N., has been detailed to report to Commissioner Peck at Chicago, and will at once enter upon the work of mapping out some definite plan to be followed in the preparation of the naval exhibit.

A Trim Steam Yacht.

The wooden steam yacht Osceola, building at the yard of Samuel H. Pine, Brooklyn, N. Y., for Thomas L. Watt of New York city, is one of the trimmest vessels of her class ever turned out. The yacht, which was designed by Gustav Hillman, is 129 feet in length on deck and 115 feet on the water line; 18 feet beam; 9 feet 10 inches depth of hold, and 7 feet 6 inches draught. The hull is of wood, with the exception of the engine and boiler bulkheads and coal bunkers, which are of 3-16-inch steel plate stiffened by 2 x 2-inch angles and tees. Propulsion is furnished by a plain compound engine with cylinders 15 and 27 inches diameter by 20 inches stroke. The boiler, which is of the Scotch type, is 10 feet in diameter by 10 feet length and will carry a working pressure of 175 pounds. The Review is indebted for the illustrations herewith presented to the courtesy of the



WOODEN STEAM YACHT OSCEOLA BUILT FOR THOMAS L. WATT, OF NEW YORK.

American Shipbuilder, New York. Mr. Thomas L. Watt, the owner of the new yacht, is a brother of Commodore Archibald Watt, whose unique yacht, the American, the Review described at some length a short time ago.

Outlook in the Hemp Market.

The probable effect of the events of the past six months at Manila upon the hemp market continue to prove a fruitful topic of conversation among men interested in the status of the market, by reason of its effect upon shipping supplies. In discussing the outlook Mr. H. F. Lyman, of the Upson-Walton Co., of Cleveland, one of the largest concerns dealing in rope in this country, said recently to the review: "Owing to the long time required for hemp to arrive, supplies have been normal, both here and in England to date, and will be until about October. The point of greatest interest now is what will happen after that. The latest statistics from Manila, on April 25, show receipts at all ports on the island from January 12, of 292 bales, with shipments including all loads that were ordered away by our navy in May, of about 300 bales, leaving about 115 bales in store, mostly of medium or low grade hemp. Receipts at all ports last year to September 1 were 596 bales, while as far as known none have been received this year since May 1, making a shortage to date of about 300 bales, or over one-third of a year's supply. It is hardly probable that much hemp has been cleaned in the provinces during this time, or can be collected and brought to Manila for at least another month, making a further shortage of available supply of say 65 bales. We say available supply, for unless the hemp arrives here in sufficient quantities, in time to be made into binder twine (as well as rope) for next spring's demand, the shortage must result in a sharp advance in prices, as the demand must be supplied by a fixed time, and that early enough to allow time to manufacture the hemp, which requires full supplies for at least six months before harvest. Reserve stocks were much lower, before the war, than for several years, owing to demand, and have been greatly decreased since. Thus while in the course of the coming year (1899), it is possible that enough hemp may be produced to overcome the present shortage at Manila, and in reserve stocks, it hardly seems probable that it can both be produced and reach this country and England, (three to six months after shipment), in time to prevent prices from reaching a higher level next spring, with a fair probability that that level may be maintained for a much longer time."

Changes at Eastern Ship Yards.

The announcement of Mr. F. W. Wood, president of the Maryland Steel Co., Sparrows Point, Md., that Mr. Andrew G. Wilson, superintendent of the Harlan & Hollingsworth Co., of Wilmington, Del., had resigned the latter position to accept that of manager of the ship yard of the Maryland Steel Co., presumably removes all doubt that a determination has been reached to resume the operation of the plant in question. The Sparrows Point yard may be made one of the best in this country, and with the avowed policy to secure the most efficient staff possible there is no reason to doubt that it will secure a considerable portion of the naval and commercial work which will result indirectly from the war.

At a meeting of the stockholders of the Harlan & Hollingsworth Co., a few days ago, the resignations of President Henry G. Morse and Superintendent Andrew G. Wilson were accepted and J. Taylor Gause was elected president. Mr. H. T. Gause, vice president in this connection gave out the following statement: "At a proper time when Mr. Morse retires, Mr. J. T. Gause will assume the office of president, H. T. Gause, vice-president, and Samuel K. Smith, treasurer. H. W. Gause will be in charge of the railway and architectural departments, and T. Jackson Shaw will remain in charge of the engineering departments of the business. The other leading men in various departments will remain, though some few changes and redistribution of duties may take place later on. The business of the Harlan & Hollingsworth Company will be carried on hereafter upon the same lines of honest work, and careful construction and fair dealing, which have been so well tried during the long history of nearly sixty years, during which the company has grown to be what it is to-day; and with the cordial harmony that now exists in its management, the public may be assured of its future development upon the old-time principles of conduct."

J. Taylor Gause, who is to become president, has been connectd with the Harlan & Hollingsworth Company since 1843. For a number of years he was vice president, and later he was chosen president of the company. He relinquished that position in July, 1896, when Mr. Morse was chosen to succeed him.

Fall in, comrades! The Nickel Plate road has authorized low rates to Cincinnati, on the occasion of the national encampment, Sept. 5 to 10.

HENRY CRAMP'S VIEWS.

HE GIVES EXPRESSION TO HIS OPINIONS ON A QUESTION OF VITAL INTEREST TO SHIP BUILDERS. RECENT ACHIEVEMENTS OF THE CRAMP CO.

Mr. Henry Cramp, vice president of the William Cramp & Sons' Ship & Engine Building Co., of Philadelphia, has an intimate knowledge of the needs and requirements of our shipping interests that makes a statement from him at any time both interesting and valuable. Particularly is this true with regard to the report that the government may sell its recently acquired foreign vessels at auction, upon which topic Mr. Cramp has favored the New York Commercial with a communication. He says: "Assuming that the government may at some time sell at auction the foreign built vessels which it has purchased for war purposes, it is our opinion that such action would require a new interpretation of existing law by the department of justice or perhaps a declaratory act by congress itself—no precedent for such a situation existing in the history of the country. You are doubtless aware that in this war for the first time in its history the government has purchased foreign built ships for use as transports, supply vessels, colliers, etc. But the status of foreign built vessels captured as prizes is well settled. The title of such ships vests absolutely in the government by the act of capture and when adjudicated and sold the government makes to the buyer absolute and indefeasible title, so that according to the rules established in the war of 1812 and approved in many cases of blockade runners captured during the war of the Rebellion, all vessels so acquired, no matter where built, became at once entitled to all the rights and priviliges of American vessels as defined by the navigation laws from 1791 to the present date. No such precedent, however, has been established as to the status of vessels of foreign build purchased by the government, and, therefore, as we said at the outset, the sale of the foreign built ships which the government has purchased would give rise to the question of law suggested. Under these conditions it would, we think, be premature to inaugurate now any movement calculated to anticipate a question not yet before the public. It would, in our opinion, be better to wait until the intention of the government shall have been developed by the text and tenor of the advertisement which it must promulgate at least sixty days prior to the sale of such vessels. We would also suggest that the existing general law provides that public property cannot be sold by the executive department of the government without the authority of congress, either comprehensive or specific, for that purpose. There is nothing in the law authorizing the government to purchase the ships under consideration which authorized it to sell them when their services might no longer be required. Therefore, in our judgement, the executive would need express authority of congress to sell these ships before it could legally proceed to effect such sale."

Mr. Cramp is very enthusiastic over the prospects of the American ship building industry as a result of the war, according to the quotations of a recent interview. He considers it significant that the talk of prospective customers regarding new ships is all for fleets for new steamship lines rather than for single vessels. The introduction of American capital into our new colonies, he argues too, will soon necessitate the establishment of lines of fast mail steamships, which will of course combine passenger service with the transportation of the government mails.

In this connection it may not be amiss to note an achievment of the Cramp company that is likely to attract the attention of ship builders everywhere. It was nothing less than the launch last week of the steamer Admiral Dewey, and whose time of construction is said to mark a new record in American ship building. The keel was laid one week after the launch of the battleship Alabama on May 18th last, and the steamer has consequently been on the ways but twelve weeks. It is thought that she will be ready to go into commission by September. The Dewey is one of the four steamers building at the Cramp yard for the American Mail Steamship Co., and they constitute the first vessels constructed in this country for the West Indian trade. The vessels will be named for distinguished admirals of the American navy, the next two having the names of Admiral Sampson and Admiral Schley assigned them. All four of these vessels are designed to be converted into auxiliary cruisers on demand of the United States government and they will be provided with gun mounts. The vessels have been chartered for ten years by the Boston Fruit Co., to run between Philadelphia and Jamaica.

Not only is the Cramp company preparing to bid on the construction of the United States war vessels, the bids for which are to be opened on September 1, but there was laid at their yards this week the keels for the two Russian war vessels for which the firm recently secured the contract. The battleship will be of 12,700 tons displacement and must maintain a speed of 18 knots for twelve consecutive hours, with all coal, ammunition and stores aboard, while the cruiser will be of 6,500 tons and must, under natural draft, maintain a speed of 22 knots for twelve consecutive hours. A continuous test for twelve hours is something wholly new for battleships, the European practice generally being to rate vessels on their speed over a single measured mile.

Steamers for a New Pacific Line.

The first step in the new era of Pacific coast trade was taken with the incorporation at Trenton, N. J., this week of the Polynesian Steamship Co., which will operate a line from San Francisco to Honolulu and Tahiti and very probably to the Phillipine islands. The new company is capitalized at $1,500,000 and the incorporators include Charles R. Flint, R. A. C. Smith, Daniel B. Hatch and William M. Ivins of New York; Edwin L. Cramp, of Philadelphia; J. L. Doty, of Washington and G. G. Kidder, of Orange, N. J. A provisional service will be established January 1, two chartered steamships having been secured to open the line, but it was decided to at once build two 3,000-ton steamships and later two additional vessels will be constructed. It is not given out who will build the vessels, but the fact that Mr. Edwin Cramp is interested in the company has led to the inference that at least a portion of the contract will go to the William Cramp & Sons' Ship and Engine Building Co. All the vessels to be constructed for the new company will be built under the supervision of United States naval officers and they will be so arranged that they may at any time be converted into auxiliary cruisers.

Latest Contracts in the Ship Yards.

J. W. Basham & Son of Ironton, O., will soon begin work on a 500-ton deck barge for Henry Miller of that place.

Mr. H. A. Barnard of Moline, Ill., is building a tug 72 feet in length by 14 feet beam and with a draught of 12 inches. She will be completed next month.

Dunn & Elliott of Thomaston, Me., are building a four-masted schooner to replace the C. S. Glidden. The firm has already signed contracts for two four-masted schooners to be built next year.

The Diamond State, building for John B. Warman at the yard of W. G. Abbott, near Milford, Del., was launched last week. She is 165 feet keel, 32 feet beam and 14 feet depth of hold.

Announcement has been made of the successful launch of the four-masted schooner Rachel W. Stevens, building at the yard of the New England Co. at Bath, Me., for Capt. Lucius F. Stevens of Clinton, Conn.

The Canadian Pacific Railway Co. is building a steel steamer 160 feet in length by 32 feet beam at its yards on the Kootenay river, near Nelson, British Columbia. A sister ship of this vessel is under construction at Nakusp on the Columbia river.

Wolff & Zwicker of Portland, Ore., have launched the tug Samson. She is 120 feet over all, 24 feet beam and 14 feet depth of hold. She will be fitted with compound engines capable of developing 1,900 horse power, and two Taylor water tube boilers.

The Charles Barnes Co. of Cincinnati has about closed the contract for a steamer for Colorado river service. She will be of steel, 100 feet in length, 20 feet beam, 3 feet deep, and will be equipped with high pressure engines and a stern wheel. Estimated cost $20,000.

The Jackson & Sharp Co., Wilmington, Del., has the contract for a five-pocket dump barge, 100 feet long, 30 feet beam and 10 feet deep. This firm is now building a dredging steamer for the Bucyrus Dredging Co. of Minneapolis for their work at Charleston, S. C.

The Roach ship yard, Chester, Pa., has secured the contract to build a steam yacht, to be designed by Gardner & Cox of New York, for Eugene Tompkins of Boston. She will be 160 feet water line, 21 feet beam, 21 knots speed, and equipped with quadruple expansion engines and Almy water tube boilers.

The Burlee Dry Dock Co. of West Brighton, S. I., is building one steel and two wooden tugs and two steel barges. This company, which only recently completed a large machine shop, has a plate shop in course of construction, and is preparing to make a specialty of the construction of steel vessels.

The Manhattan Steamship Co. of Philadelphia, incorporated some months ago, is about to inaugurate a service between New York and Maine and Nova Scotia ports, and it is rumored that three new steamers for the use of this line will be built at the yard of the Hillman Ship & Engine Building Co. of Philadelphia.

Around the Lakes.

An advertisement on page 18 of this issue calls for a small steam vessel capable of making 12 to 14 knots and having capacity for about 150 passengers.

C. A. McDonald & Co. of Chicago, underwriters, will sell the wreck of the burned steamer George W. Morley, on the beach at Evanston, Ill., Sept. 2.

The light-house board, in a notice to mariners, announces that the color of the tower at the Seul Choix point light station, Lake Michigan, has been changed from red to white.

Abram Smith & Son of Algonac, Mich., have just completed remodeling and rebuilding the steamer Roberta preparatory to her going on the route between Marine City and Port Huron in connection with the Detroit & River St. Clair R. R.

The Evening Wisconsin of Milwaukee announces the dissolution of the firm of R. P. Fitzgerald & Co. of that city. Capt. Fitzgerald will close up the affairs of the firm, and will, it is understood, give up his insurance agency and devote his time to the management of his four vessels.

The steel schooner Maia, building at the yard of the Chicago Ship Building Co. for the Minnesota Steamship Co., was launched last Saturday. The new boat is 376 feet keel, 390 feet over all, 48 feet beam and 26 feet deep. The Maia is the thirty-third boat built by the Chicago ship building company.

A notice issued by Commander Hanford, inspector of the tenth light-house district, states that the Lime-Kiln crossing south light-vessel will be withdrawn from her station in the Detroit river about August 29 for repairs. During her absence, which will be for a period of about two weeks, a temporary light will be shown from a lantern on a float moored in the position usually occupied by the light-vessel.

The Brown Hoisting & Conveying Machine Co. of Cleveland has just closed contracts for three 10-ton electric pillar cranes with 16 feet radius and the Weston safety lowering device, to be installed at the Key West navy yard. This is a portion of the large government contract secured by the Brown company some time ago, but a delay was occasioned by some of the sub-contracts involved. The Brown company has also secured contracts for a locomotive yard crane and a 50-ton traveling crane for the open-hearth building of the Alabama Steel & Ship Building Co., near Birmingham. The former is one of the company's steam cranes of the standard type and is designed for handling general material. The 50-ton crane is an electric traveler, and power will be furnished by five motors. It is designed for the handling of hot metal and ingots. There is a 50-ton trolley on the top girders and a 15-ton trolley between the girders and underneath. Both contracts will be filled in a comparatively short time.

William W. Watterson on Monday last succeeded T. W. Bristow as superintendent of the Lorain plant of the Cleveland Ship Building Co.

The Bessemer Steamship Company

Solicits Catalogues, Prices and Discounts from manufacturers and wholesale dealers in Ship Machinery, Brass Goods, Rope, Paints, Asbestos, Packing, Hose, Furniture, Piping, Glass and Crockery, Tinware, Ranges, Carpeting, Bedding, Life-preservers, Rafts and Boats, Engineers' Supplies and Tools, Carpenters' Tools, Electric Supplies, Lamps, Grate Bars, Castings, etc., etc., etc.

ALSO QUOTATIONS from Market men and Grocers on the Lakes for Provisions and Meat, best quality only.

CATALOGUES without quotations are not wanted.

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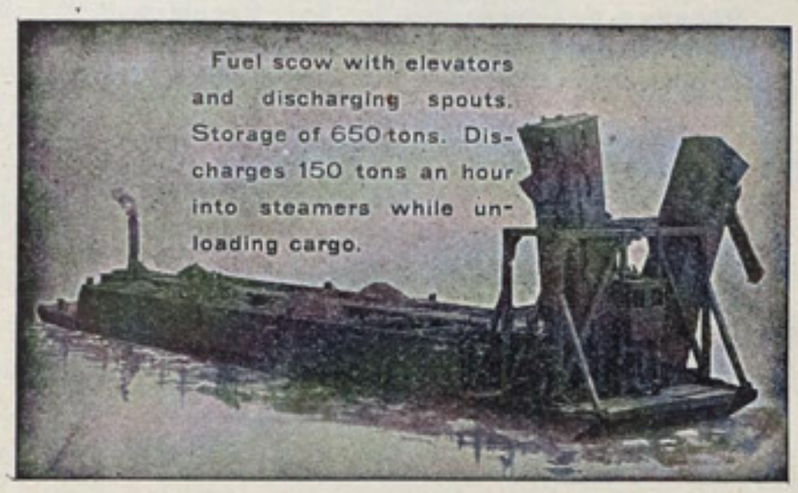

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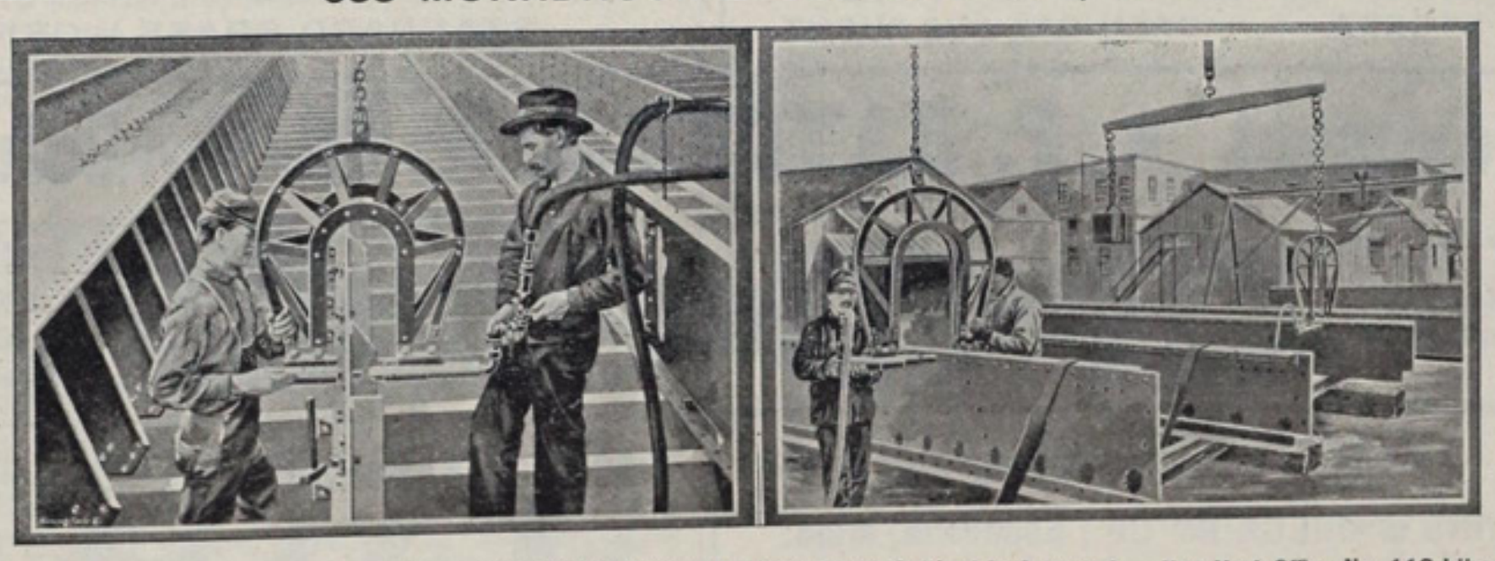

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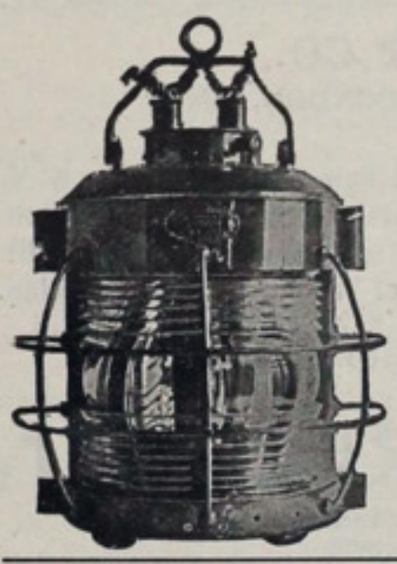

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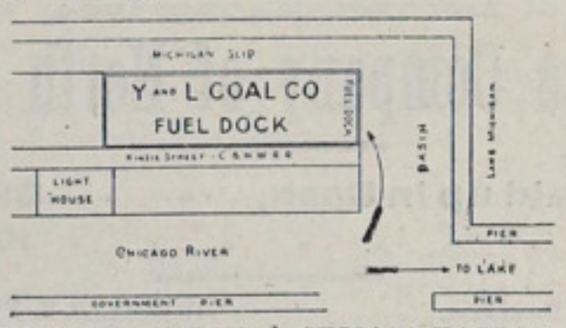

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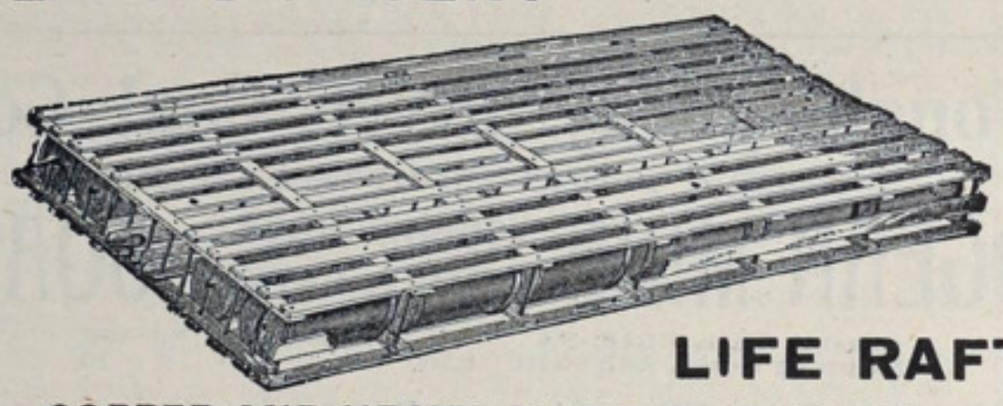

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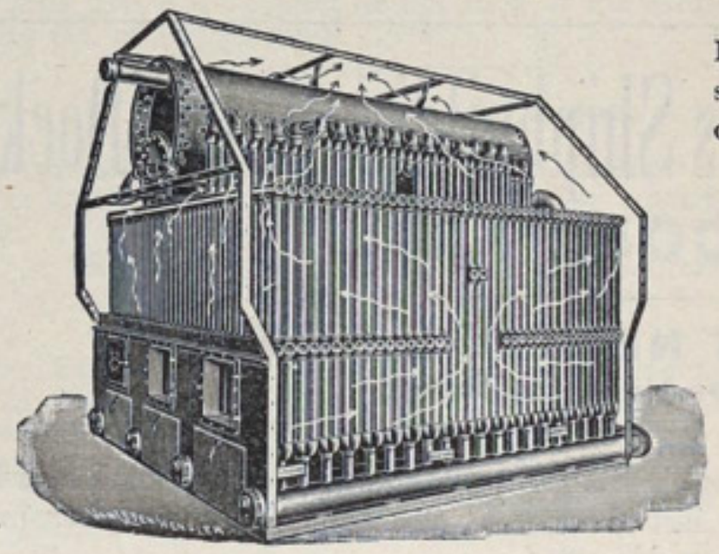

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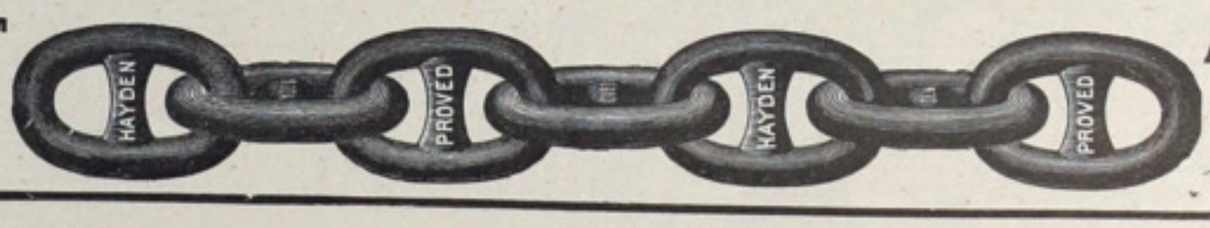

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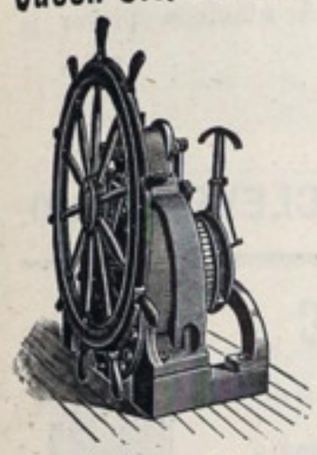

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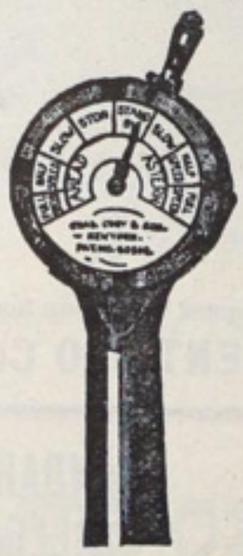

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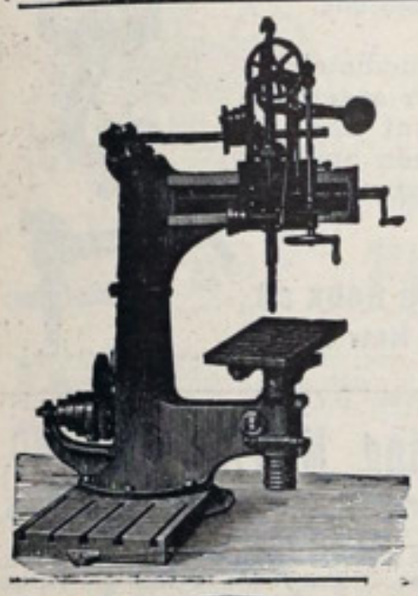

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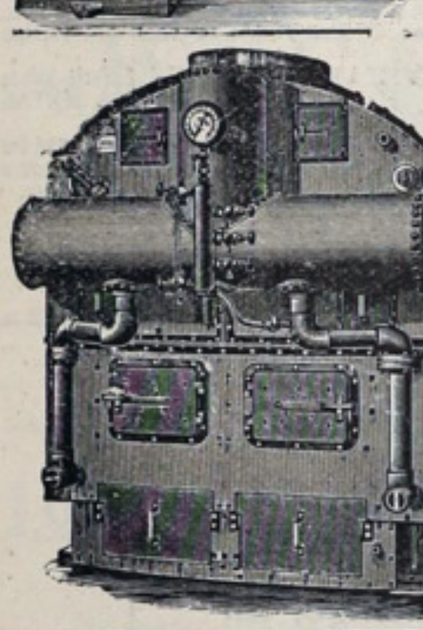

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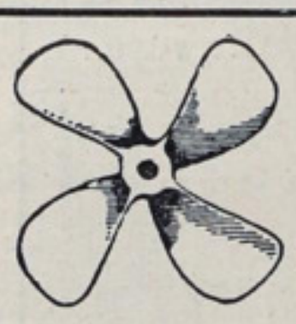

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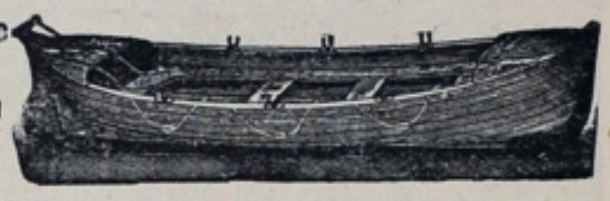

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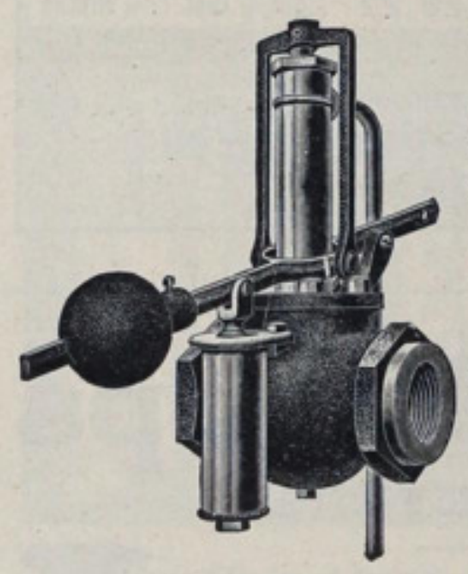

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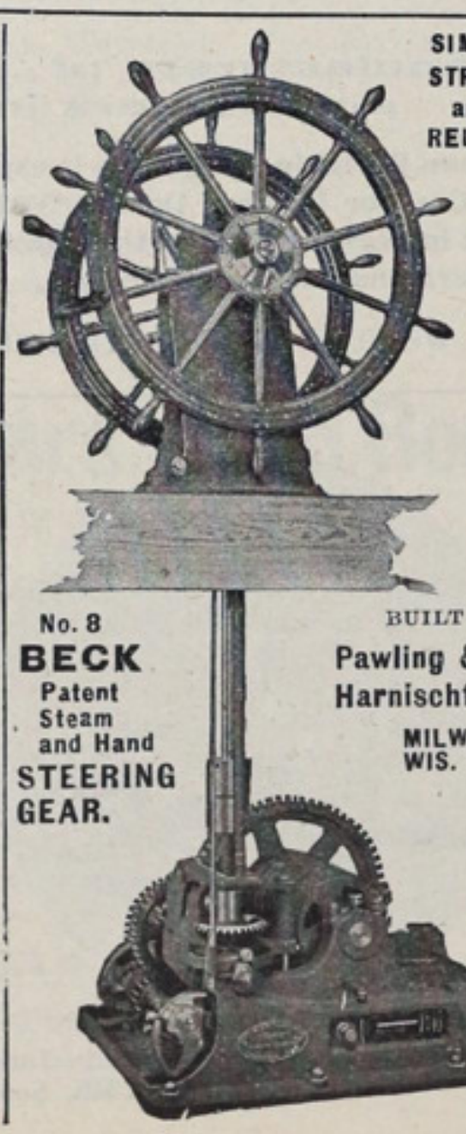

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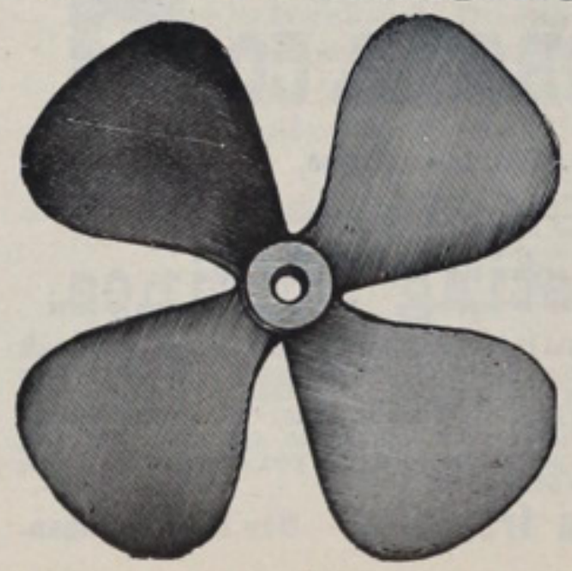

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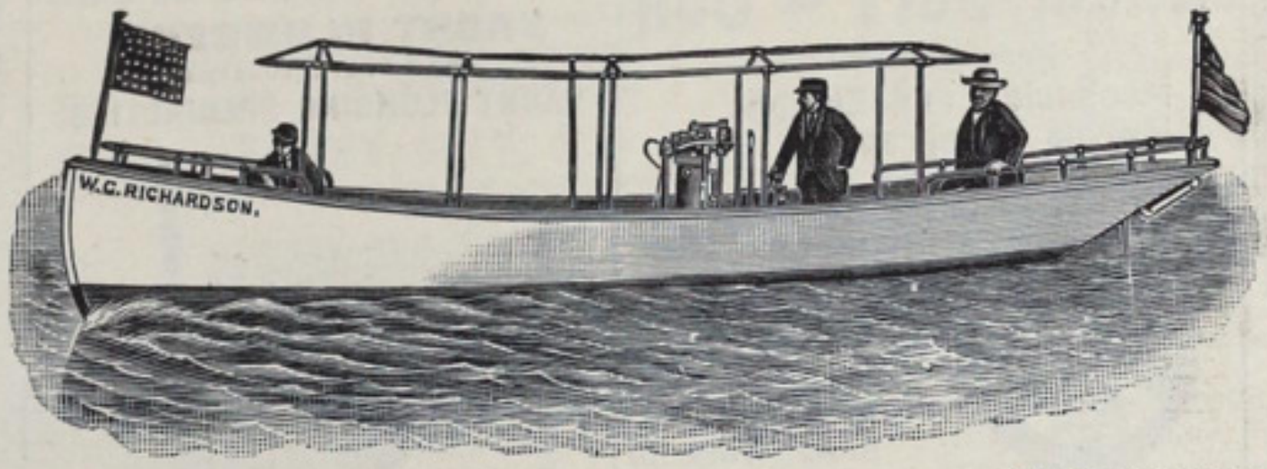

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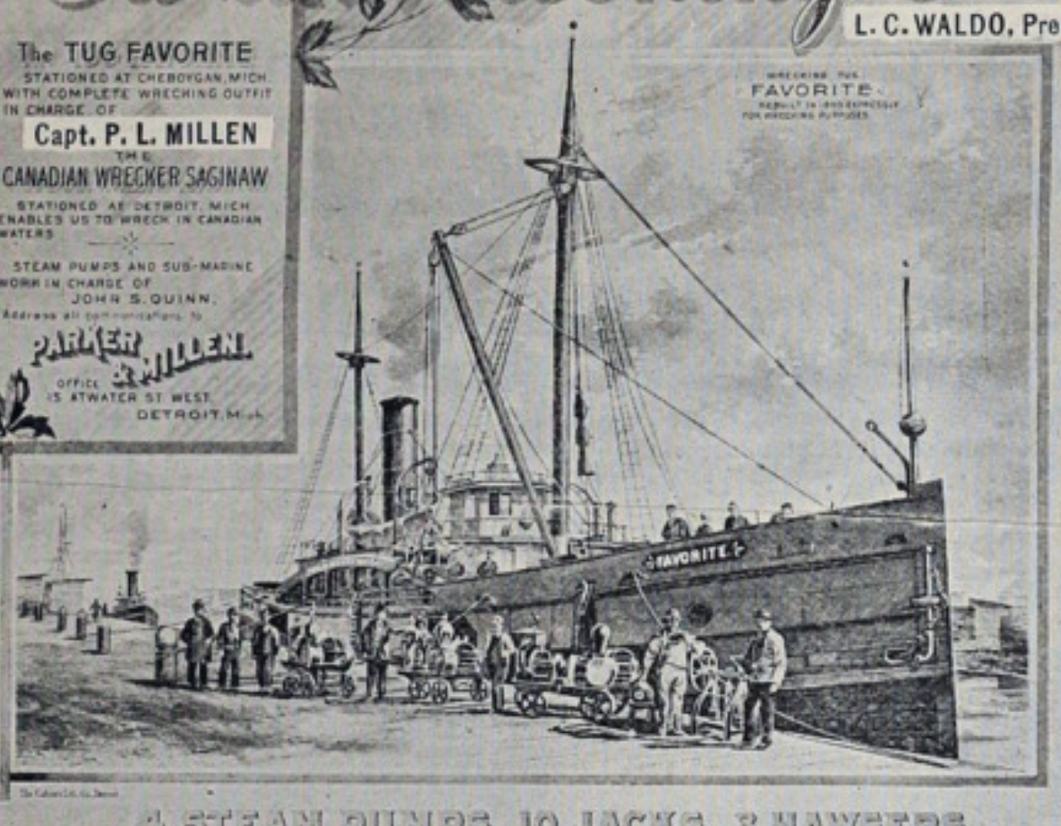

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21	22	23	24	25	26	27
28	29	30	31			

10-100 TON JACKS
1-12 INCH HAWSER
1-10
1-9

Telegraph
Capt. P. L. MILLEN
CHEBOYGAN, MICH.

TELEGRAPH
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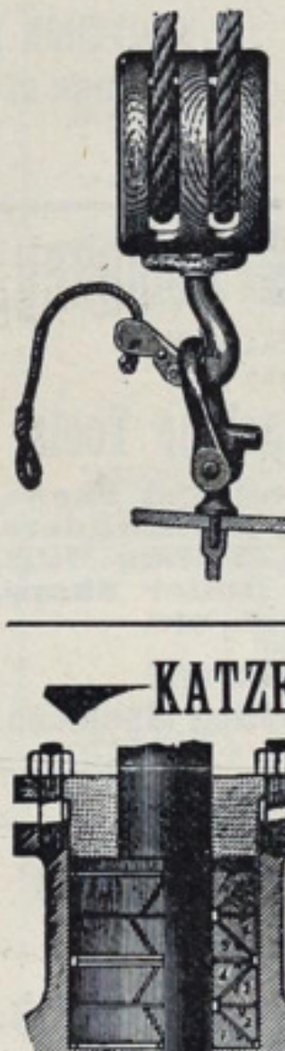

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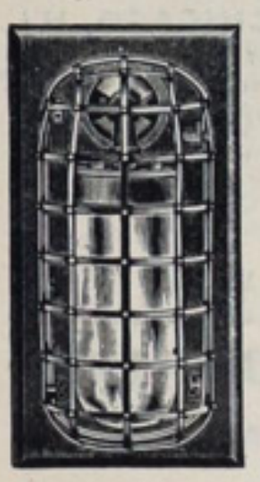

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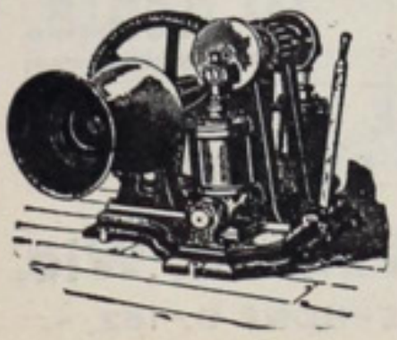

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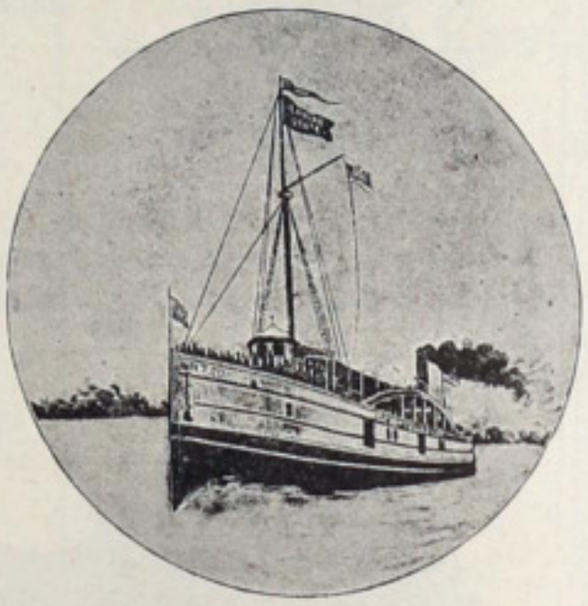

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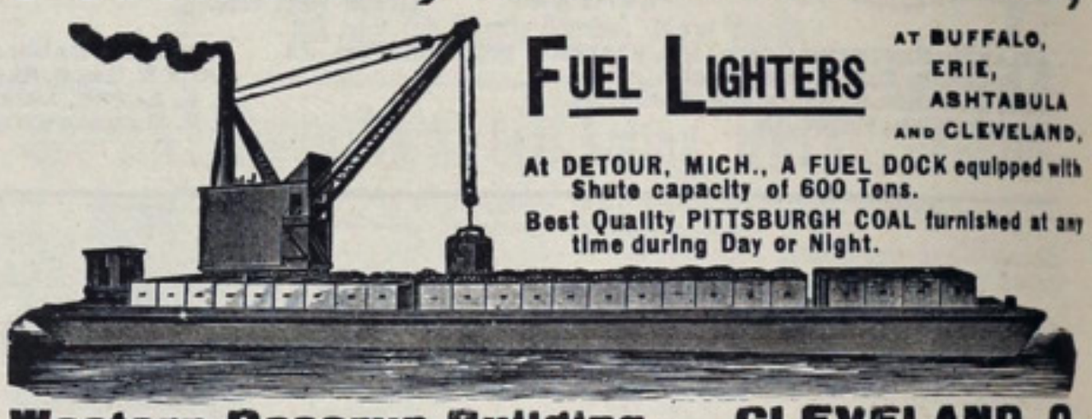

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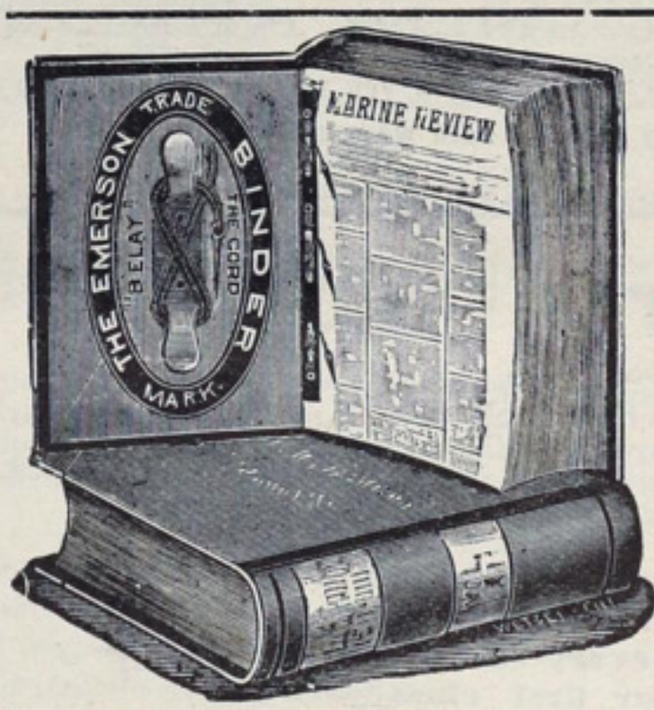

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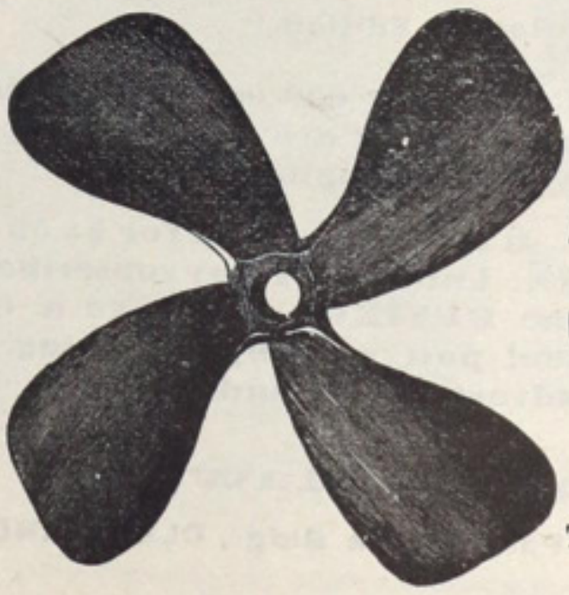

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